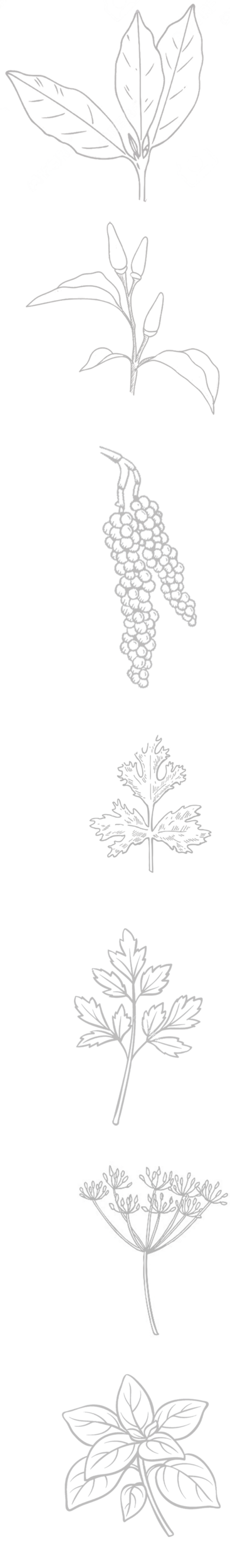
A PEREGRINATION *through spice*

Cayla-Jade Hallowell
2017114139



Declaration

This dissertation is submitted in partial fulfilment of the requirements for the degree Masters in Architecture.
M.Arch (Prof).

All the work contained in this document is my own except where otherwise acknowledged.

Department of Architecture, Faculty of Natural and Agricultural Sciences, University of the Free State.

Cayla-Jade Hallowell | 2017114139 | caylajade98@gmail.com

Supervisors:
Jan Smit
Petria Smit

Co-Supervisor:
Jako Olivier

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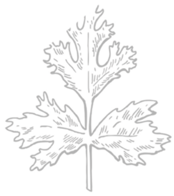
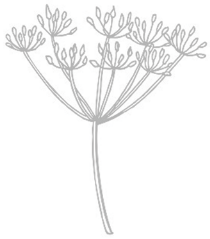




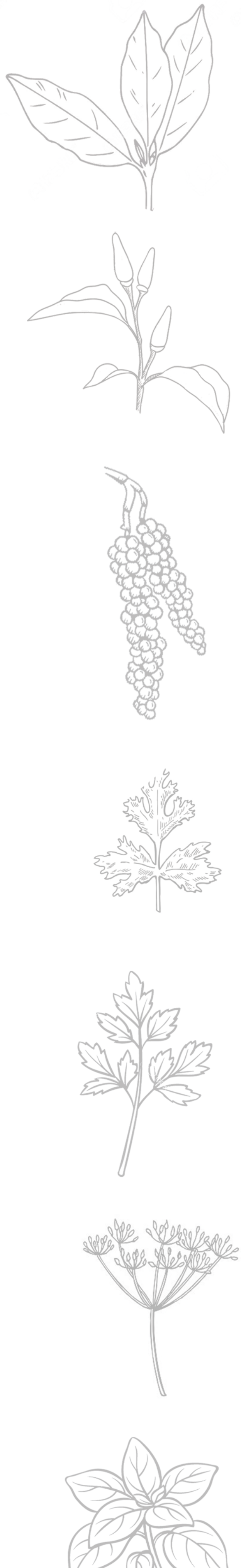
Acknowledgements

> *For from Him and through Him and to Him are all things. To Him be glory forever. Amen.*
> Romans 11v36

First and foremost, I would like to thank **my Lord and Saviour, Jesus Christ**. It is only through His strength, endless love, mercy, and grace that this dissertation has come to completion.

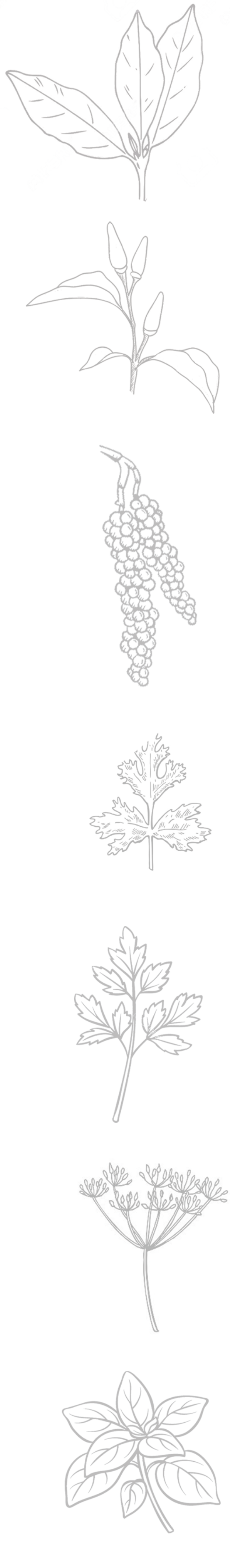
Secondly, I would like to express my deepest appreciation to my family. My parents, **Connie and Cathy,** for their support and countless sacrifices throughout this journey. And to my dearest sister, **Katie Grace**, for consistently motivating me and never wavering with her love and support.

Without this support team as well as the constant prayers from my extended family, I know that I could never be where I am today.



Lexicon

Peregrination-	a long meandering journey through a space
Promenade-	a sequenced journey through a building or space, conducted by the architecture thereof
Sensory experience-	an experience of the senses, how one would see, hear, touch, smell, and taste
Embodied experiences-	an experience which would involve both ones sensory and motor functions
Cultural identity-	a person's self-conception as well as self-perception based on their nationality, religion, social status and locality
Phenomenology-	the lived experience of humans, the philosophy of experiences and the way we encounter situations
Multisensory engagement-	an engagement of all the senses (sight, smell, taste, touch, sound) through an architectural moment
Nodes-	a centralized connection point between two things coming together, be it an architectural connection, sensory connection, visual connection or a connection of different narratives
Cinematographic-	referring to the art of motion or moving through a space



Abstract

In recent years, the field of architecture has witnessed a growing recognition of the significance of embodied sensory experiences in shaping our perception of space. How we interact with our surroundings extends beyond visual perception, encompassing the multisensory engagement with and movement through the environment. This corporeal journey employs the changing qualities of haptic experiences- smell, taste, sound, and bodily orientations. An emerging understanding of architecture as a sensorial medium opens exciting possibilities for exploring how cultural elements, such as food and its associated sensory experiences, can be translated into an embodied architectural journey. South Africa's rich cultural diversity has fostered the emergence of vibrant communities, each bringing its unique heritage and traditions. Among these communities, Indian South Africans have enriched the country's cultural fabric through their culinary practices and the use of aromatic spices, tantalizing the senses. The distinct flavours and fragrances found in Indian cuisine are deeply intertwined with personal, familial, and communal histories, forming an integral part of the South African identity. The culture of Indian spice is by no means static. To architecturally articulate this dynamic culture, the dissertation seeks to analogously map the smell-taste journey through different spices as a cinematographic journey through different architectural nodes and experiences. Taking this cinematographic journey will result in not only a visual but an embodied peregrination through the narratives interwoven within the history and culture of spice.

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Figure 1: The conceptual giving and taking from a space in KZN (Author, 2023)

01 SETTING THE SCENE

introduction

PART

1.1 Dissertation Framework

The dissertation framework briefly outlines the general layout and structural layout of the dissertation.

1.2 Entering a Sensual Journey

"Entering a Sensual Journey" is the introduction to the dissertation and will touch on the initial inception and goal of the dissertation.

1.3 The Research Question

The research question states the main objects and questions the aim and end goal of the dissertation.

ONE

1.4

Research Methodology

The research methodology of the dissertation are the tools that were incorporated to provide a framework for decision making. These methodologies are;

- Typology
- Topology
- Morphology
- Tectonics

1.5

Roseneath statistics

The Roseneath statistics highlight the overall gender, population group and language of Roseneath to gain a deeper insight into the area and surrounding context.

1.1. Dissertation Framework

PART 02

Spatial Narratives

- Introduction
- The alchemy of time
- Concretizing the duality of existence
- Bipolarity of existence
- Architectural nodes

PART 03

Sensing & Journeying through the site

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- Diachronic Thereness
- Proustian Memory
- The promenade as an experiential journey through sensory nodes
- Aesthetics as an interactive journey by means of the senses

PART 04

Site analysis

-Typology
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- Topology
- Macro analysis
- Mesa analysis
- Deep mapping (Mesa)
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- Deep mapping (Micro)
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- Precedent studies

- Design methodology

- Design development

- Applied design and tectonics
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- Climatic design principles
- Structural systems & design
- Tectonic programme & function
- Vegetation
- Spice production
- Applied design & tectonics
- Application of the senses
- Detailing in design

- Final design
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- Site plan
- Floor plans
- Sections
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PART 06

Reflection

Figure 2: Khari Boali spice market
(Sahapedi, 2018: online)

Sensory Peregrination

A Promenade for the education, appreciation, and preservation of Spice Culture in Roseneath, KZN South Africa.

1.2. Entering a Sensual Journey

We cannot go a day without seeing, tasting, or smelling the cultures that have been rooted in our rural and urban landscapes. These sensory exchanges shape moments of interconnectivity and community echoing through our country and are lived metaphors of our human togetherness in being-in-the-world.

This master dissertation aims to delve into the sensory and embodied experiences associated with South African Indian spices and their potential translation into architectural design. By exploring this rich tapestry as a journey through aromas, tastes, textures, contexts, interiors, exteriors and light and shadows, this research seeks to uncover how these changing sensory encounters can inform the creation of a spatial pilgrimage that evokes a sense of cultural identity and place. The dissertation program facilitates the client's needs, The Spice Emporium, by linking a series of functional facilities through a meandering path.

The Spice Promenade focuses on growing crops for spices traditionally used by the people living in Roseneath and the surrounding areas. A spice boutique provides the opportunity to sell produce, while workshops and tasting rooms serve as educational spaces for users and visitors. In the workshops, users will expand their knowledge of spice-making and recipes. This educational sector aims to provide visitors with the opportunity to experience the culture of the community, whilst learning about cultivation, harvesting, processing, and uses for various spices. An art gallery and museum will provide an immersive educational experience in the history of spice, aiding in its celebration and preservation. Each facility aims to lead the user and visitor through the site, drawing them further into the site, to the restaurant and viewing points, framing the rolling landscapes surrounding the farm.

This sensory peregrination along a spice promenade offers visitors the chance to experience the local cuisine, music, and traditions of the people of Roseneath as well as develop a deeper appreciation and respect for the culture. This will inevitably result in a peregrination through the history and essence of spice-making.

To capture the multifaceted nature of the sensory and embodied encounters with spices, this study explores the translation of these sensory experiences into architectural elements, such as spatial configurations, materiality, lighting, circulation, and peregrination, with the aim of developing design guidelines and principles that can be applied in architectural practice.

By bridging the realms of food culture, sensory perception, and architecture, this research seeks to foster not only the sensorial qualities of spices but also inform the choreography of a functional program and the creation of culturally responsive and engaging architecture.

The objective of the spice promenade is to provide a culturally immersive, functional, and economically sustainable farm and boutique as well as an educational experience for users and visitors whilst providing an economic asset to the local community. Through a multidisciplinary approach which includes sensory studies, cultural anthropology, and architectural design theories, this study investigates the phenomenological aspects of experiential place-making.

1.3. The Research Question

The preceding introduced the research question:

How can the aromatic journey through different spices be architecturally translated to create a series of embodied experiences and a sensory peregrination through spatial nodes?

AROMATIC JOURNEY

An aromatic journey speaks of a journey driven by the senses, led by the aroma of the different stages of a spice.

SPICES

The plants that will be grown on the spice farm are paprika, chili, parsley, oregano, coriander, ginger, cumin, bay leaves, turmeric, cinnamon, and black pepper. Each of these individual spices contributes to a well-known traditional recipe of curry powder.

ARCHITECTURALLY TRANSLATED

By applying the theories of the aesthetics of architecture as well as a peregrination through spice, the architecture became a translation of the senses and the driving force throughout the dissertation.

EMBODIED EXPERIENCES

An embodied experience is one that is driven by the senses. A key focus of the dissertation is translating the senses through the aesthetics of architecture into embodied architectural moments.

SENSORY PEREGRINATION

A peregrination is a long meandering journey through a moment or space. The term "sensory peregrination" questions how the user can be driven through a journey by the use of their senses.

SPATIAL NODES

Spatial nodes are spatial, centralized connection points between two things. This can be seen as an architectural connection between two types of senses or narratives.

1.4. Research Methodology

The architectural dissertation is composed of four main elements through which different research methodologies have been implemented. These four elements are typology, topology, morphology, and tectonics, and provide a framework for the decision-making process within this architectural dissertation.

Typology

The typology explored the functions of an appropriate accommodation list for the needs of the people of Roseneath.

Topology

The topology was a deeper investigation into the history behind spice as well as the history of the people of Roseneath. This involved conducting interviews with people who have grown up in the surrounding areas.

Morphology

The morphology explored the form giving of the architecture branching from an alternative site analysis as well as precedent studies. This was also influenced by the soil conditions of the site, the slope of the site and the materials found in close proximity to the site.

Tectonics

The tectonics of the building is the structural composition of the elements which compose this peregrination through spice. The tectonic investigation becomes the dissertation and was influenced by precedent studies.

1.5. Roseneath statistics

Gender (Figure 03)

■	Males	3,886
■	Females	3,687

Population Group

(Figure 04)

■	Black African	2,127
■	White	51
■	Indian	5,197
■	Coloured	167
■	Other group	32

First Language

(Figure 05)

■	Zulu	1,454
■	Xhosa	280
■	Afrikaans	59
■	English	5,422
■	Northern Sotho	18
■	Tswana	25
■	Sotho	30
■	Tsonga	9
■	Venda	4
■	Southern Ndebele	75
■	Sign Language	63
	Other language	41

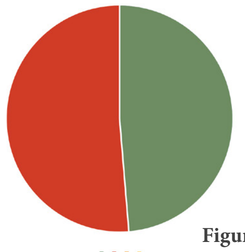


Figure 3: Gender (Author, 2023)

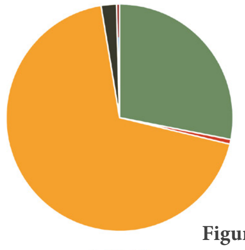


Figure 4: Population Group (Author, 2023)

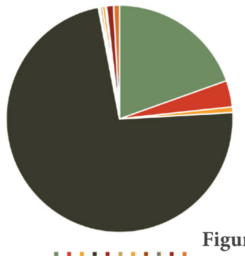


Figure 5: First Language (Author, 2023)

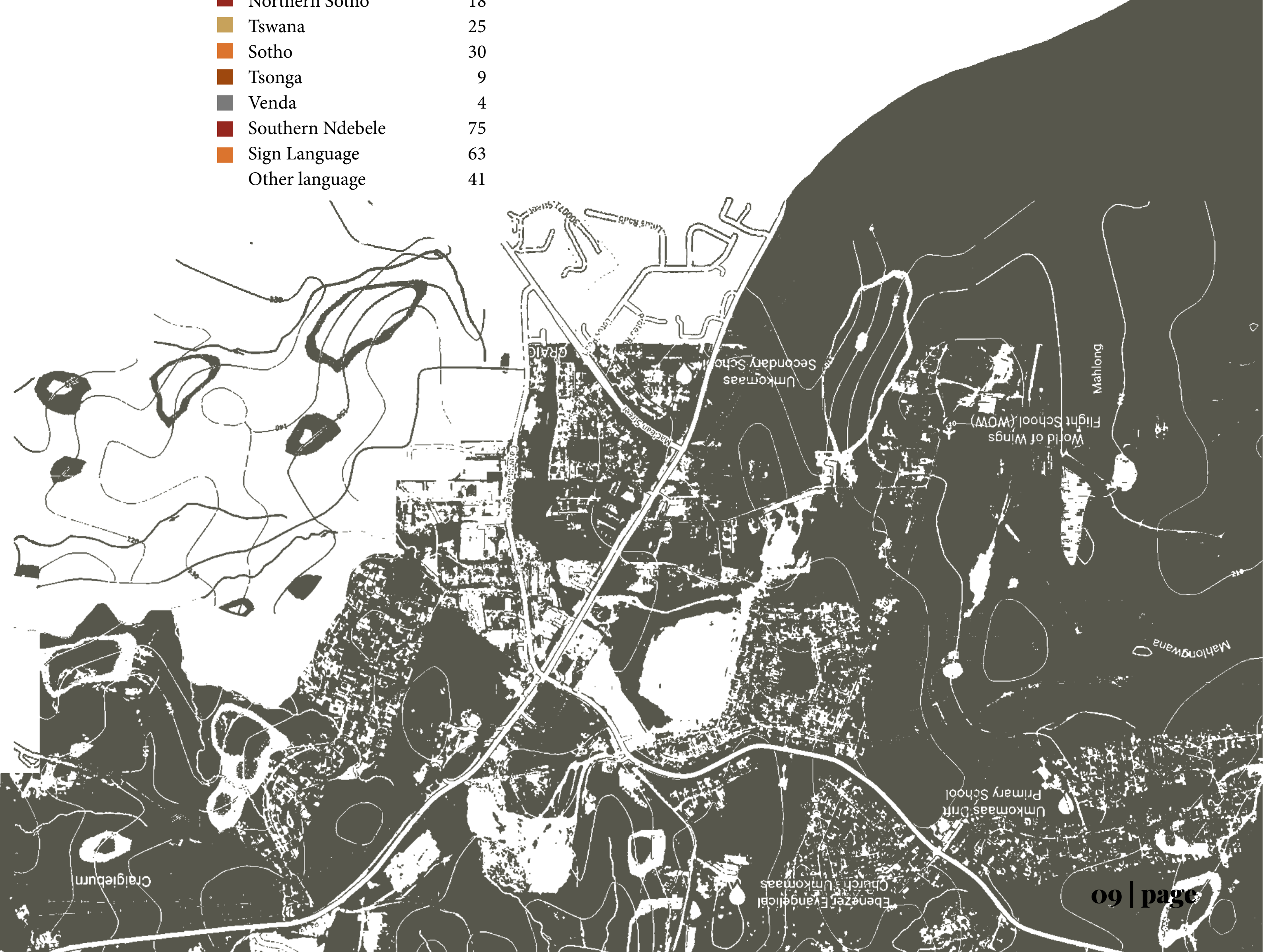


Figure 6: A peregrination led by the senses

(Author, 2023)

02

A SENSUAL PEREGRINATION

through history & Roseneath

PART

2.1

A Sensual Peregrination through History & Roseneath

A sensual peregrination through history and Roseneath explores the historical impact of the Indian spice trade and how the adapted Indian culture and cuisine in KZN has impacted the vibrant culture of Durban.

2.2

Touching & Listening to a valley in Roseneath

Touching and listening to a valley in Roseneath is a personal engagement and experience with the site itself.

TWO

2.3

An Aromatic Engagement with Roseneath

Going beyond the touching and listening to the site, a third sense was applied- smell. This was an engagement with the site and its surroundings purely through scent.

2.1. History & Roseneath

The Indian spice trade dates back thousands of years. Spices have shaped the course of world history leading to colonization, exploration, and diaspora. Spices also play a significant role in Indian culture. The different combinations of spices add a layer of depth and complexity to the culture. Not only are they an essential component of Indian cuisine, providing rich flavours, vibrant colours, and aromatic profiles but they are rooted in ancient traditions, and medicinal and culinary purposes, reflecting the local culture, climate, and available ingredients.

As cohesive as the magic and culture of spice is, it has been the cause of separation and diaspora for many people. In the late 15th century, Vasco da Gama and Portuguese explorers began exploring the coast of Africa in search of a sea route to the spice-rich lands of the East. Rounding the Cape of Good Hope, and reaching the Indian Ocean, these explorers established trade links with the spice-producing regions of India, Indonesia, and the Far East.

In 1652, the Dutch East India Company (VOC) established a refreshment station in Cape Town, primarily to provide provisions and fresh water for its ships en route to the East Indies. This settlement later grew into a colony known as the Cape Colony and although South Africa itself was not a major producer or exporter of spices in the region, it served as a crucial stopover and transit point for ships traveling to and from the spice trade. (South African History, 2023: online) Together with people from Indonesia, the first Indians arrived in South Africa during the seventeenth century, brought by the Dutch East India Company. They primarily came from Bengal and South India and were brought to South Africa through the spice route, where they became slaves of the Cape Colony. People became defined by the goods they brought and nothing else.

In reference to his book "Curry: Stories & Recipes Across South Africa," which offers a rich exploration of Indian history in the South African context, Ishay Govender-Ypma writes that the history of Indian cuisine in South Africa starts with the arrival of more than 150,000 Indians — mainly agricultural laborers from lower castes — [which] were sent to the South African port city [of Durban] between 1860 and 1911 at the request of the British. They were destined for the unruly sugar cane plantations, railways, and fishing and boating industries. (Govender-Ypma 2018: online)

The indentured workers were mainly from regions like Tamil Nadu, Andhra Pradesh, Bihar, and Uttar Pradesh. Some Indians also arrived as "Passenger Indians" at their own expense. (Mudly, T, 2020: online) They brought with them the culinary traditions of India, which, according to Govender-Ypma, merged with the locally available ingredients and foods cultivated by the indigenous Zulu people. (Govender-Ypma, 2018: online)

Mudly explains that before the Indian immigrants arrived in Natal, the Natal Immigration Law of 1859 was enacted, establishing rules and regulations for recruiters, ship captains, and ship doctors. The journey for many Indian immigrants on ships was arduous, marked by abuse, mistreatment, and, in some cases, improper relations. Women, in particular, were vulnerable to exploitation. Upon arrival in Port Natal, Indian immigrants were met with curiosity and sometimes hostility from the local population. Indian immigrants faced challenges in finding housing, receiving low wages, and adapting to their new environment. Many made adaptations in terms of religion, language, caste, dress, and food. (Mudly, T, 2020: online)

Figure 7: The arrival of the first Indian indentured labourers to South Africa

(The Heritage Portal, 2020: online)

Figure 8: Labourers working on the sugar cane fields

(The Heritage Portal, 2020: online)

The Indian immigrants started, Mudly accentuates, cultivating crops from India to sustain themselves and even began selling excess produce. After completing their indenture period, some immigrants returned to India, while others remained in Natal. They often leased or bought small plots of land and engaged in various occupations. (Mudly, T, 2020: online)

Today, Govender-Ypma says, Durban boasts a substantial Indian population, primarily descendants of the South Indian laborers and merchant-class Gujaratis who came for entrepreneurial opportunities. (Govender-Ypma, 2018: online)

In this culinary journey, Govender-Ypma expands on the fact that the indentured laborers initially received rations that included rice, yellow split peas, salted fish, and oil. However, due to various circumstances, not all ingredients were consistently available. Adaptations were made, such as using maize as a substitute for rice, reserving coconuts for symbolic ceremonies rather than cooking, and replacing traditional oils with cheap vegetable oil. These modifications reflect the resourcefulness and adaptability of the Indian community in Durban as they forged a connection with their new land and its available produce. (Govender-Ypma, 2018: online)

This historical and culinary fusion is a testament to the resilience and creativity of the Indian diaspora in Durban, resulting in a unique and flavourful cuisine that continues to be celebrated today.

According to Govender-Ypma, the culinary journey of Indian South Africans in Durban reflects a fascinating fusion of Indian and Zulu influences, as well as the adaptations made during the era of apartheid in South Africa. (Govender-Ypma, 2018: online)

Over time, the cuisine evolved into what Madhur Jaffrey describes as a "collective spicy cuisine" where regional specifics from India were replaced by a more, as Govender-Ypma calls it, general 'Indianness.' (Govender-Ypma, 2018: online) The blending of South African cultures also played a significant role in shaping Durban's culinary identity.

The regional specialties, such as curried Zulu "running" chicken, spicy braised green bananas, local yam, and soured milk raitas, illustrate the harmonious integration of Indian and local Zulu ingredients and flavours.

During the period of apartheid, when racial segregation was enforced from 1948 until 1990, Indian South Africans had to adapt their cooking to the limited resources available within their segregated communities. These adaptations, which Govender-Ypma claims, were often referred to as "specialties," included dishes like dried shrimp and luffa, tinned pilchard curry, and sheep trotters with speckled borlotti beans. (Govender-Ypma, 2018: online) Local versions of classic Indian dishes like breyani, dhal, samosa, spicy pickles, and "sweets" emerged, each with its unique regional touch.

The isolation of South Africa from the international arena during apartheid, combined with the limited mobility of the indentured Indian population, led to the development of a distinct and complex regional cuisine. As Govender-Ypma notes, this cuisine is characterized by its fiery red colour, the generous use of curry leaves, and the unexpected inclusion of potatoes even in biryanis. (Govender-Ypma, 2018: online) The exuberant use of oil, often referred to as the "customary oil slick," remains a beloved but enigmatic feature of this cuisine.

For Govender-Ypma, culinary history is a testament to the resilience and creativity of the ancestors of Indian South Africans and their ability to adapt and innovate, even in challenging circumstances. It is a unique blend of cultural influences and historical factors that have given rise to a truly distinct and flavourful South African Indian cuisine.

The Design Dissertation is situated in Roseneath, Durban, Kwa-Zulu Natal. The area is known for its significant Indian population with a rich heritage and diversity, deeply rooted in the vibrant Indian culture and its history.

The Indian community of Roseneath takes pride in its culture, becoming a vibrant and richly celebrated part of the town's cultural landscape, enriching the area's diversity, and enhancing the unique identity of South Africa as a whole.

Roseneath is known for small-scale vegetable and fruit farms and is composed of nutrient-rich soil. Because of the KZN climate, it receives an abundance of rain. With farmlands to the north and suburbs to the south, the site is a perfect example of what is so much a part of the Indian culture- communing and being interconnected with those around you. The site is nestled in a valley between two hills, with its back to the town, opening itself up to the landscape. Embedded into the suburban borders of Roseneath, the site becomes the threshold between two interlocking topologies and a celebration of the interconnectivity of the people.

Figure 9: Indian Passive Resistance in South Africa, 1946

(Dee, 2022: online)

2.2.Touching & Listening to a valley in Roseneath

> "You must start right from the beginning, letting your new buildings grow from the daily lives of the people who will live in them… There must be neither fake tradition nor faked modernity, but an architecture that will be the visible and permanent expression of the character of a community"
> - Hassan Fathy (Jencks et al., 2008: p.171)

Creating an architectural space that resonates with the community's needs and culture requires an initial understanding of its inhabitants. Upon engaging with the residents of Roseneath and neighboring towns, it became evident that spices held a profound influence on their lives, leaving a permanent stain on their cherished childhood memories. During an interview with Barbara Pillay, she recounted how her passion for cooking and connecting with others through food took root in her childhood years. Barbara's mother incorporated a blend of spices such as cinnamon, cloves, bay leaves, star anise, cardamom, and cumin, and the resulting aroma beckoned her to the kitchen each day after school. This captivating scent became the driving force behind her dedication to home cooking and hospitality. (Pillay, B, 2023: interview)

Darshan Chetty also shared how the aroma of cinnamon played a pivotal role in shaping his childhood. He reminisced about his mother's preparation of Vermicelli, an Indian pudding, where cinnamon had to dominate the medley of ingredients for it to pass the traditional bar. Other spices, such as curry powder, turmeric, geerah, and masala, were all combined to create an aromatic symphony of spices that ignited his taste buds and evoked vivid memories of after-school moments and Sunday family lunches at his mother's home. (Chetty, D, 2023: interview)

Figure 10: Touching and engaging with the site in Roseneath (Auther, 2023)

Figure 11: The aesthetics of architecture
(Life Force 02, 2022: online)

03

AN IMMERSIVE JOURNEY OF DISCOVERY

Foundational ideas and key design concepts

PART

3.1 The Duality of Perception

"The Duality of Perception" theoretically explores the subjective experience of architectural space and place, merging utility with metaphorical significance.

3.2 Diachronic Thereness

"Diachronic Thereness" integrates specific identities and memories into place-specific design, driven by critical regionalism principles, highlighting the interplay between architectural spaces and culture.

3.3 Proustian Memory

The "Proustian Memory" explores how sensory experiences, particularly related to the aroma of spices, can be translated into architectural design, nodes, and spatial experiences that evoke a memory.

THREE

3.4

The promenade

"The Promenade" explores the concept of experiential architecture, particularly in the context of Indian and modern architecture, emphasizing the importance of architectural promenades, sensory engagement, and the interplay of time and space.

3.5

Aesthetics

"Aesthetics as an interactive journey by means of the senses" discusses the importance of multisensory experiences in architecture, emphasizing that architectural aesthetics involve engaging all the senses to create a truly immersive and memorable architectural journey.

3. An Immersive Journey of Discovery

Foundational ideas and key design concepts

Introduction

Berni Searle is a politically and socially engaged artist based in Cape Town. In her "Colour Me" series, she stated the following.

> "My body will leave a trace because I was there. But when I was there, I was rendered invisible, so was I ever there at all?" -Bernie Searle (Searle, 2004: online)

Searle took a stand, questioning the notion of presence vs absence. She created art by camouflaging and revealing herself through the medium of spice. By pouring spice over herself, she camouflaged herself in the process. The final art piece, however, is revealed when she stands up and unveils the space that is now left bare, indicating that although she was not visible, she still occupied a space. If her body left a trace, she was surely there but when she was there, she was rendered invisible. So, was she ever there at all? She aimed at making herself visible through the spices to portray the value that she holds.

The specific use of spice in this artwork is representative of the slave trade but also has a deeper-rooted meaning in the fact that spice has an aroma. Once the aroma of spice is activated, you will be made aware of its presence. Whether you can see it or not, you know that it is there.

A creative exploration of the memory, meaning, and identity of spice led to three design and theoretical concepts through which design principles underlying the dissertations are explored.

Figure 13: The touchstone, attempting to unmask the past through the art of spice (Author, 2023)

Figure 12: Berni Searl, Colour Me series (Searle, 2004: online), Adapted by Author

3.1. The Duality of Perception

The first design and theory concept, "The Duality of Perception", investigates meaning through the phenomenology of architectural space and place. This concept aims to view architecture through influential layers of the experienced social context and the individuality of the site.

According to Pallasmaa;

> "Architectural structures are simultaneously utilitarian constructions for specific purposes and spatial and material images of our being-in-the-world. They are lived metaphors, that mediate between the world and the human realm of life, immensity, and intimacy, past and present."- Juhani Pallasmaa (Pallasmaa, 2009: online)

Space and place are instruments of architectural expression. As human beings, our experience with space and place goes beyond objective properties but is rather shaped by our embodied existence and cultural context.

Phenomenology in architecture emphasizes the subjective experience of space and place. Architectural space can be seen as the physical dimensions and properties of the built environment, whereas architectural place refers to the meaning and significance thereof. The phenomenology of architectural space and architectural place is therefore an indulgence into the understanding of how people experience and interact meaningfully with the built environment.

> "Architecture must extend 'the narrow borderline', persuade it to loop into a realm - an articulated in-between realm. Its job is to provide this in-between realm by means of construction, a bunch of real places for real people and real things (places that sustain instead of counteract the identity of their specific meaning)"
> - Aldo Van Eyck (Jencks et al., 2008: p.28)

This design approach, explored for the development of the Spice Promenade, aims at uncovering the embedded and underlying extent of care, transforming care into a mechanism of meaningful peregrination through a response to the cultural identity and communal life, becoming, "a humanizing body for all participants" (Panozzo, 2013: online).

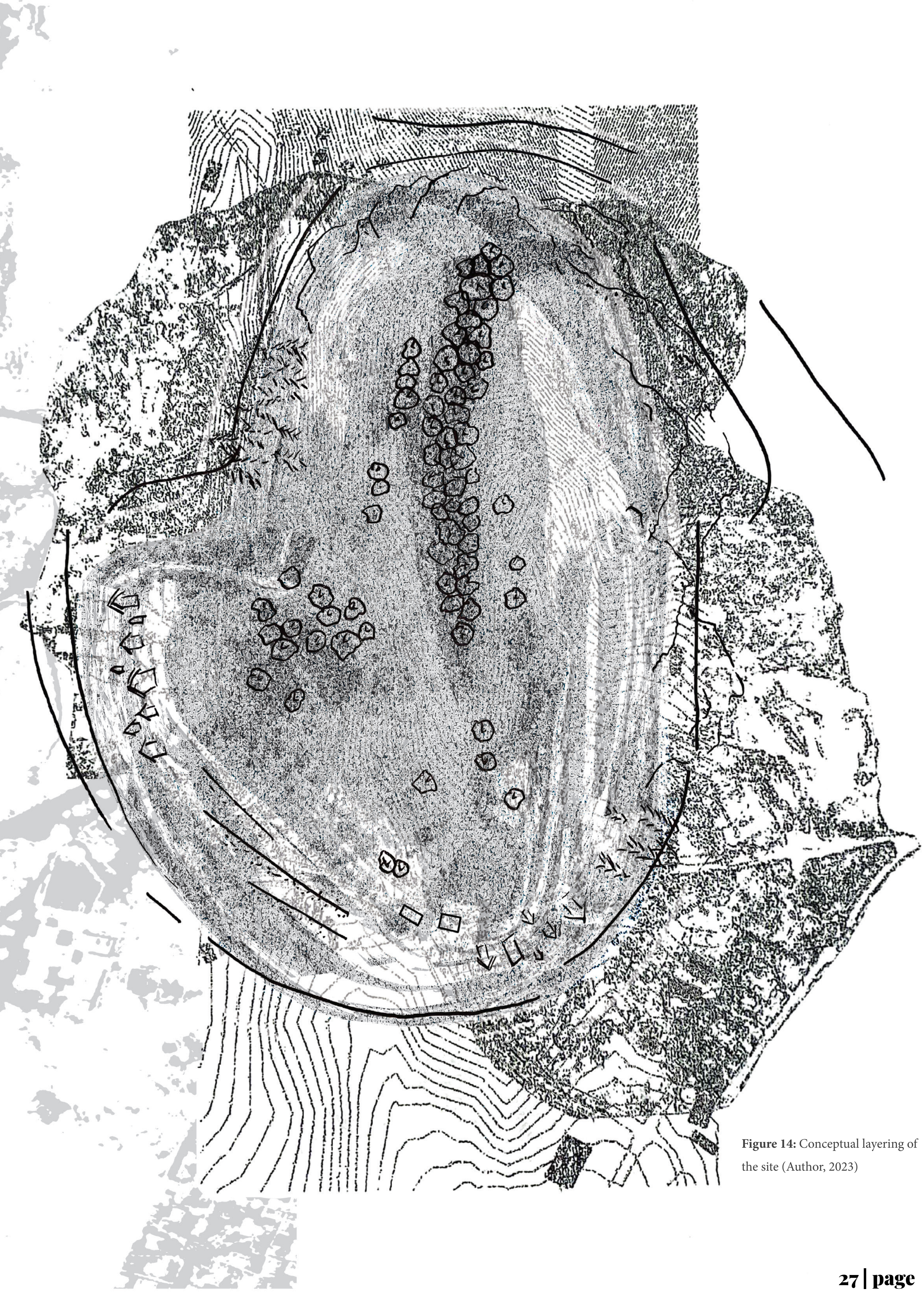


Figure 14: Conceptual layering of the site (Author, 2023)

3.2. Diachronic Thereness

The second concept, "Diachronic Thereness", focuses on how specific identities and memories become the loci for place-specific design. This notion is shaped by the principles of critical regionalism. According to John Locke "a person's identity only reaches as far as their memory extends into the past" (Azarian, 2015: online). Diachronic Thereness attempts to critically interpret and concretize specific identity and memories. In other words, the regional meaning behind spice – the meandering cultural memories, traditions, and celebrations of spice – into the making of regional spatial memories and experiences.

Diachronic Thereness refers to the presence and essence of how people, cultures, traditions, and places have evolved. As individuals, we perceive identities in accordance with social determinations and cultural projections that are rooted in our social structure. Through our social determinations and cultural projections, we connect to the distinctiveness of community and the specificity of place, embedding our cultural experiences into the experiences of spaces. Critical regionalism contrasts the notion of global culture and placelessness.

Architectural spaces do not only reflect the already existing culture, but reciprocally shape culture: "Our Built form does not simply reflect culture; it shapes it" (Eggener, 2002: p.232). To emphasize the importance of cultural identity and place in architectural design, care is ploughed into the language of the built forms. Critical regionalism can cultivate an integrated language of the environmental context, rooted in the local cultural identity. Critical regionalism partly reflects the culture and traditions of a specific region, while offering a counteractive stance to placelessness and lack of identity. Through the critical appropriation and creative interpretation of the traditional rituals and memories, critical regionalism acts as a catalyst for sustaining sensitive architectural poiesis and shaping a culture of care.

The aromatic culture of spice drifts beyond the kitchen but can be seen in the communing and celebration that is evident in the Indian culture. This inherited art of spice is often passed down through generations and connects families and communities through their sharing, hospitality, and social bonding.

An example of a critical spice market which employs elements of Indian architecture, is the Khari Baoli spice market, a well-known spice market located in Old Delhi, India. The market embraces the essence of its Indian heritage by respecting and celebrating the local context, culture, and identity through architectural design and seeks to create buildings and spaces that sensitively respond to the specific region of Old Delhi. The spice market is composed of many textures, colours, sounds, and aromas and is derived from five main architectural elements. (Gupta, 2020: online)

- Nodes- the focal points
- Edges- the perceived boundaries
- Districts- sections within the market that have been defined by a certain identity or character
- Landmarks- identifiable objects which serve as beacons or reference points
- Pathways

Figure 15: Five main architectural elements

(Gupta, 2020: online) Adapted by Author

Nodes

Paths

Districts

Figure 17: Bulit vs unbuilt spaces

(Gupta, 2020: online) Adapted by Author

Built

Unbuilt

Figure 16: Comercial stratification

(Gupta, 2020: online) Adapted by Author

Retail

Mixed

Whole sale

Residential

3.3. Proustian Memory

“Proustian Memory,” conceptually investigates the true aroma of spice, attempting to discover how the aromatic essence of a journey through spice is translated into experiential architectural nodes and spatial orders, forms, and types. A Proustian memory is a journey back to a vivid sense and spatial memory often based on a childhood moment, mostly involving smell-taste, and is evoked by an aroma in the present.

Harvesting architectural nodes create a sense of place and generate meaning and memories in space. Nodes provide a sense of community and identity and promote social interaction. The establishment of architectural nodes conducts moments of passive observation as well as moments of active participation resulting in immersive experiences in the preservation of knowledge through both avenues of experiential dwelling.

This concept investigates the nodal memories behind the culture and traditions in spice-making and how these memories can be brought to life through sensitive nodes of experience. Architecture, the making of place, is an extension of the inner landscape of human being-in-the-world, meaning, that it is comprehensible, experiential, and inhabitable (Jencks et al., 2008: p.72). It is however through nodes of experience that potential transactions between body, imagination, and environment can generate moments of intent and appreciated memories.

Applying the “Proustian Memory” to architecture extends beyond the sense of smell and taste but can be an architectural promenade through all the senses, focusing on the aesthetics of architecture and evoking experiences through the sensorial realm.

The main theoretical themes for this dissertation center on sensual experiences or aesthetics of architecture and the architectural promenade.

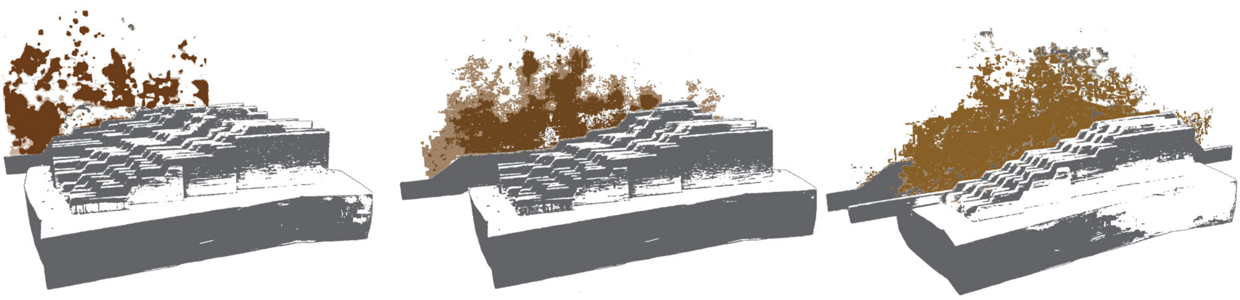


Figure 18: Conceptual models embodying the aromatic culture of spice (Author, 2023)

3.4. The promenade: a journey through sensory nodes and the alchemy of time

The architectural promenade is an enhancement of a person's experience of space and their journey through time, aiming at evoking memory and imagination or heightening the sensory and emotional experience of a place. Experiencing architecture is not a static experience. To truly understand an architectural space, one must move through and inhabit the space. Indian architecture has a unique approach to spatial design, deeply rooted in philosophical, cultural, and spiritual concepts. The composition of spaces aims to create a harmony of individual elements, which fosters a connection with the local context and traditions. The significance of spatial arrangements, the effects of time as well as the interplay between inner and outer spaces which shape the identity of Indian architecture is key to the notion of experiential architecture.

The promenade is a cinematographic spatial journey, with long stretches that have the effect of slowing down time or with short spans and sharp turns to speed up the journey. It is a temporal experience, transporting the visitor to another time and space through the lived narrative of the promenade. The promenade becomes the backbone of the building and can be conceived as chronological progressions through time, employing narrative to the user and evoking visions of the past, and the future, while heightening the experience of the now, the present time.

Indian architecture is composed of history and tradition. Because history is unable to adapt to the present time and is therefore rendered obsolete and fossilized, it comes to life as a living tradition. Traditions are a collective concurrence and shared values, constantly adapting and changing, resulting in their survival and timelessness.

Progressions through time, moulding history and then traditions, are not a linear continuity but a helix or spiral with a still center and dynamic periphery. The alchemy of time with space renders the result always unique due to the physicality of space. The investment of time renders spaces vital, vibrant, and dynamic, and the juxtaposition of time over space is the essential premise of Indian architecture. (Pandya, 2016: p.12)

A built form, however complex, once realized, remains static. However, the aesthetic interface is always static if made to interact with nature. The sun is not the same from morning to evening or season to season, thus, the change in light intensity, direction, and shadow patterns constantly changing through time redefine the built form bringing life to it. The relationship between space and mind actively interacts to condition the mind and create a familiarity with the built form. (Pandya, 2016: p.13)

Time in architecture is introduced through structured movement. Traditional Indian architecture is the story of moment and pauses where the kinesthetics of space is fundamental to its experience and perception. Movement paths, layering, thresholds, nodes, and circulation are key aspects of Indian architecture. (Pandya, 2016: p.13)

In her book, Concepts of Space in Indian Architecture (Pandya, 2016: online), Yatin Pandya illustrates the alchemy of time with space, and how different spaces can be rendered differently over time by documenting the adaptation of a traditional urban square in Manek, Chowk (see figure 19-21). The square is constantly transforming to suit the needs of its user. In the early hours of the morning, the square is used as a cattle-grazing ground and a space for daily chores. It then morphs into a plaza during the business hours of the day, hosting hawkers, shops, and parking. Finally, in the evening, the square becomes an eatery and a place for the people to commune.

This single space, the square, becomes more than one experiential place. Although the space is geometrically static, events ebb, flow and change over time. Here people do not need to move through different space to experience different events. Instead, events move through the same space – creating a static promenade.

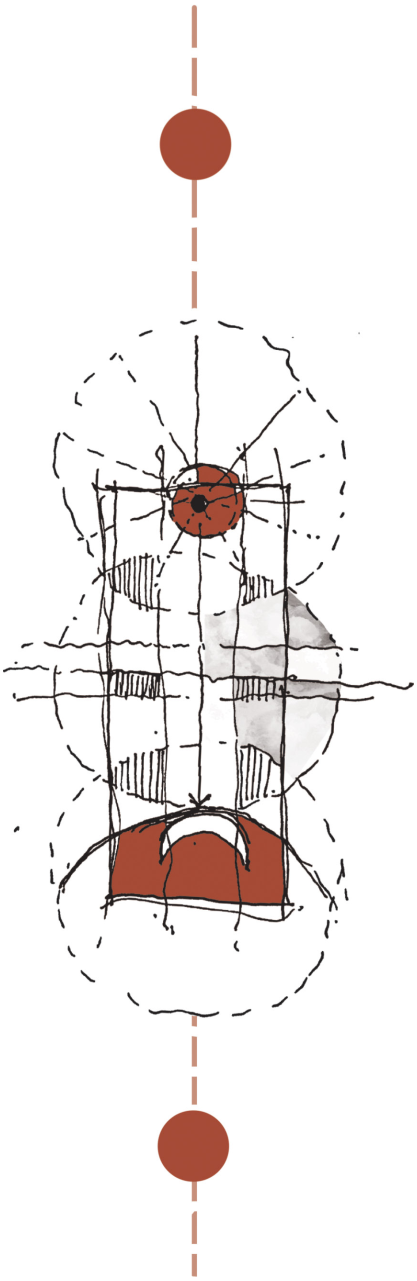


Figure 19: Manek square, early hours (6am-8am) (Pandya, 2016: online) Adapted by author

Figure 20: Manek square, business hours (9am-8pm) (Pandya, 2016: online) Adapted by author

Figure 21: Manek square, late evening (9pm-1am) (Pandya, 2016: online) Adapted by author

To understand the essence and practical functionality and application of the promenade, the work of the Swiss French architect, Le Corbusier was taken as a theoretical precedent.

Le Corbusier believed that architecture should cater to human needs, in both a physical and emotional sense. He emphasized the importance of designing spaces that stimulate the senses, evoke emotions, and provide a variety of spatial experiences. The architectural promenade aimed to create a dynamic interaction between the building and its users, highlighting the importance of creating a narrative and a sense of discovery within architectural compositions.

Villa Savoye is a famous work of modern architecture designed by Le Corbusier in 1931. Located in Paris, France, the Villa is widely regarded as a masterpiece of modern architecture and is considered one of the founding works of the International Style. One of the key features is, of course, the promenade and how it can be seen as a sensory unfolding of events.

> "It is appreciated by walking on foot- it is by walking, by moving, that one sees the order of the architecture developing. In this house [Villa Savoye] it is a question of a real architectural promenade, offering constantly changing views, unexpected, sometimes astonishing."- Beatriz Colomina (Colomina, 2009: online)

In the case of Villa Savoye, the promenade starts at the entrance ramp, leading visitors up to the first floor where they are welcomed by a spacious and light-filled living area. From there, the journey continues through a series of interconnected rooms and outdoor terraces, culminating in a roof garden with stunning views of the surrounding landscape.

Le Corbusier believed that the promenade architecture approach would create a more immersive and engaging experience for building users. By designing a building as a journey, he aimed to stimulate the senses and create a sense of discovery, rather than simply providing functional spaces for people to inhabit. The Villa Savoye is a clear example of how the concept of promenade architecture can be applied successfully to a building, resulting in a unique and memorable architectural experience extending beyond mere functionality.

Another architect that emphasized the importance of an architectural promenade and a narration of the spatial qualities, was the Japanese architect, Tadao Ando. The Garden of Fine Arts, which will be discussed in further detail in Chapter 4.2, is a beautiful example of how promenade architecture can be used to create an immersive and engaging architectural experience. By designing the space as a journey, Ando was able to create a sense of anticipation and discovery, encouraging visitors to explore and engage with the space.

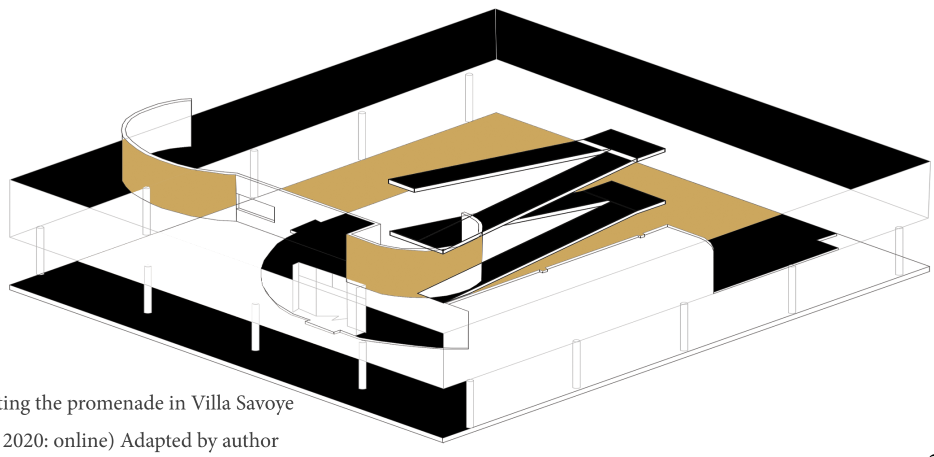


Figure 22: Highlighting the promenade in Villa Savoye (Civil Engineer Key, 2020: online) Adapted by author

As an architectural device, the architectural promenade can be employed to enhance a person's experience through a space, but also through time. The question now arises, how can a Proustian memory be interpreted as an architectural promenade?

The user will inevitably be the driver of the promenade throughout the project as well as the moments of reflection that it will house. The concept of a peregrination through spice is a key element in the design while the impact on the user is what will cause this meandering walk through the spice farm.

Architecture communicates through architectural nodes or spatial narratives. Communication takes place on three plateaus- sensorial, experiential, and associational. Sensorial refers to the psychological comfort from physical resolution in response to environmental control or aesthetics. The experiential aspect of communication is found through experiences and deals with the mental and emotional status of the perceiver. Associational communication requires familiarity with the context and creates an in-depth understanding of cultural connotations.

In architecture, vision is the primary sense of perception. Visual cues can guide or dictate the behaviours of the user. Good architecture is communicative and interactive through its spatial qualities. Dynamic perception of space (kinetic architecture) is a fundamental element of space-making in Indian architecture. Space is perceived and conceived on the basis of movement and how we orientate ourselves. Axiality is characterized by variety. Not only does this create individual nodes of interest but it enhances the pause in movement, constructing a peregrination through the space.

Jawahar Kala Kendra, an Arts Centre designed by Charles Correa in Jaipur displays spatial narratives through the journey through the building. Movement through the building is marked by a diversity of spatial densities. The museum is a redefinition of cultural display. The aim is to convey heritage as a matter of accidental encounter and discovery by relying on a person's instinct and inclinations while they move through a space. It is through this discovery and decision-making process that the rituals and art come to life.

Furthermore, in the Hindustan Lever Pavilion, Correa emphasizes movement through an angular pavilion based on promenade architecture with strong play on light. See Figure 23.

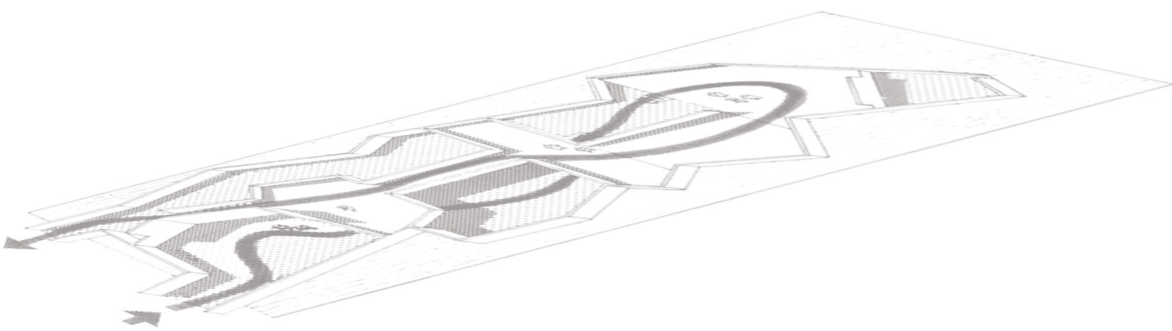


Figure 23: Hindustan Lever Pavillion as an architectural promenade (Hidden Architecture, 2019: online) Adapted by author

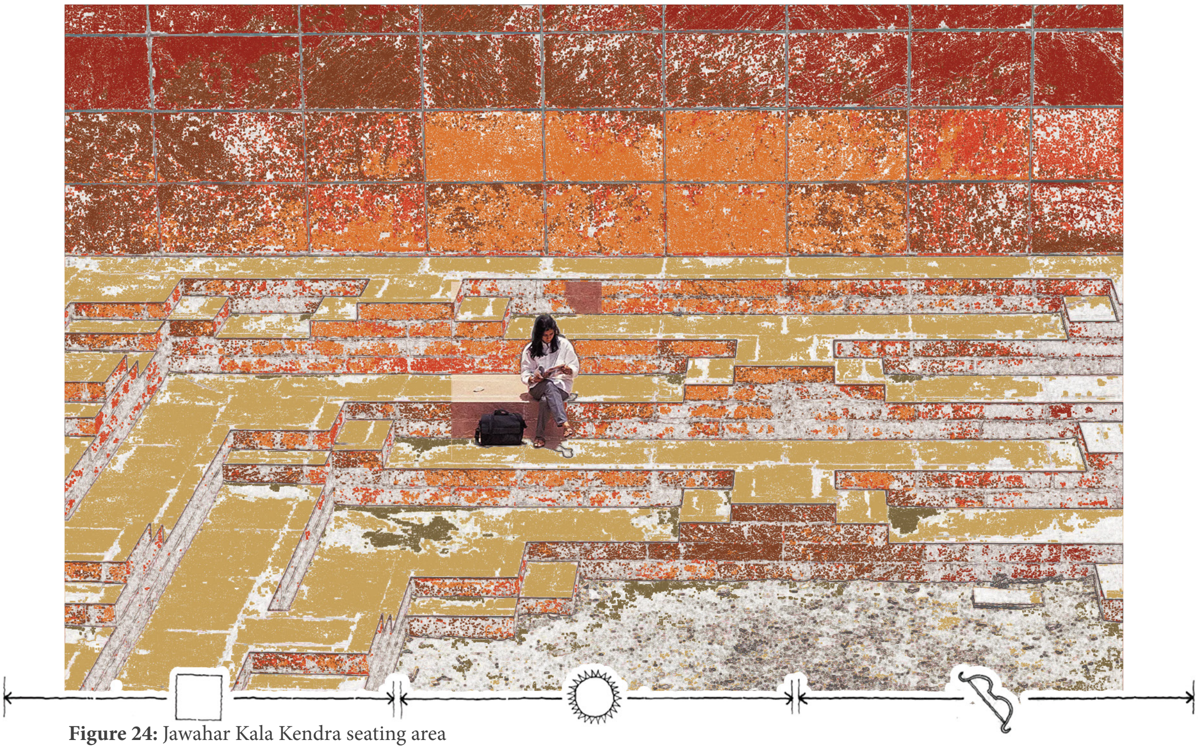


Figure 24: Jawahar Kala Kendra seating area

(Team, A, 2023: online) Adapted by author

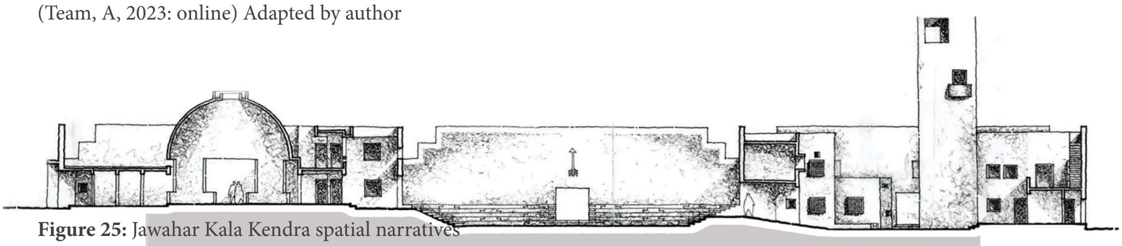


Figure 25: Jawahar Kala Kendra spatial narratives

(Team, A, 2023: online) Adapted by author

Figure 26: Jawahar Kala Kendra contemporary Indian architecture

(Team, A, 2023: online) Adapted by author

“Architecture is a usable art. It is sculpture – but sculpture usable by human beings – with doors and windows, openings for light and air. And these openings do not diminish the qualities of the sculpture – on the contrary, they complete it. In short: architecture is a sculpture with the gestures of human occupation. But perhaps it is precisely this usability that makes it so unfashionable” – Charles Correa (Hidden Architecture, 2019: online)

Rather than the user being the driver of the promenade in The Craft Museum by Charles Correa, the structural element of the building becomes the driver, manipulating and guiding the user through the building via the promenade. The Craft Museum is a contemporary interpretation of traditional Indian architecture which incorporated the promenade as a centralized pathway with architectural nodes branching off the main pedestrian spine. Correa incorporated a series of platforms to both define functions as well as articulate spaces and to pay homage to the old bathing ghats of Varanasi and the Sarkej in Ahmadabad. To emphasize the harmony of parts within a whole, Correa explores the built-in relation to the unbuilt as well as the unit to the whole. He uses the structure of the space to define the edges of the spaces whilst still placing an emphasis on geometry, balance, hierarchy, circulation, and light. (The_Prototype, 2020: online)

The Proustian memory links to the remembrance of a childhood memory evoked by an aroma. With this conceptual approach in mind, the exploration of the senses becomes a promenade, a peregrinating through the history and narrative of spice. We are haptic, sensual beings, we interpret scenarios through the use of our senses. The aesthetics of architecture explores the application of sensuous knowledge to the built environment and the promenading effect that this may have. This will be discussed further in the following subchapter.

Figure 27: The Craft Museum by Charles Correa (The_Prototype, 2020: online)

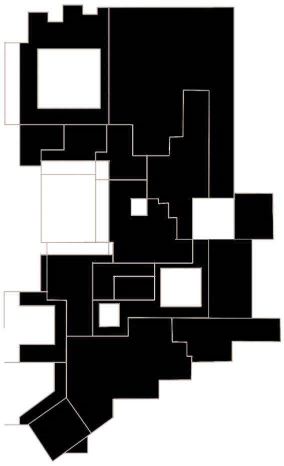


Figure 28: Built vs unbuilt relationship

(The_Prototype, 2020) Adapted by Author

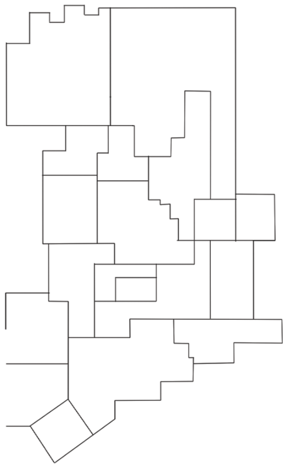


Figure 31: Unit to a whole

(The_Prototype, 2020) Adapted by Author

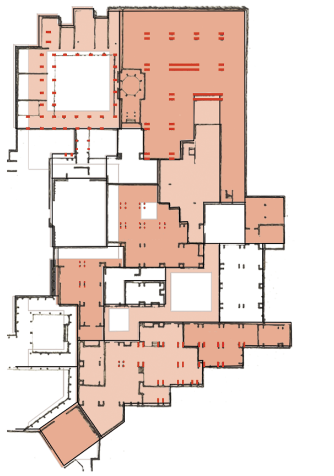


Figure 34: Structural system

(The_Prototype, 2020) Adapted by Author

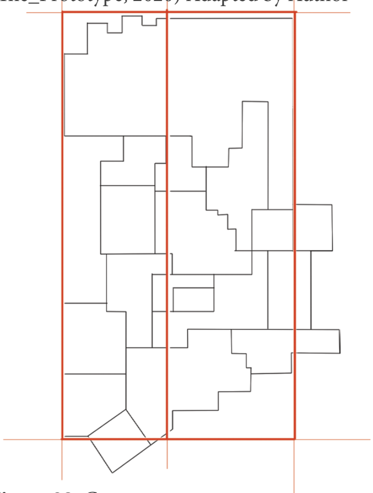


Figure 29: Geometry

(The_Prototype, 2020) Adapted by Author

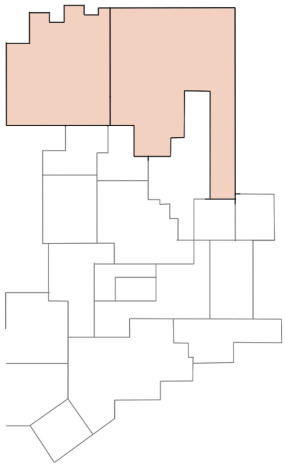


Figure 32: Hierarchy

(The_Prototype, 2020) Adapted by Author

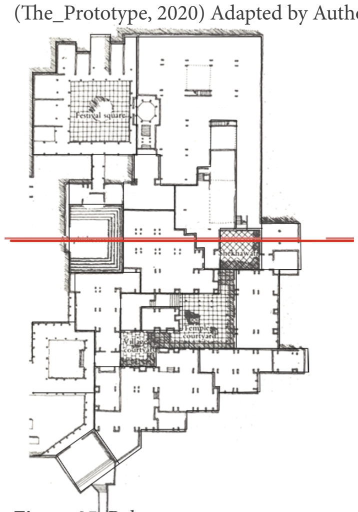


Figure 35: Balance

(The_Prototype, 2020) Adapted by Author

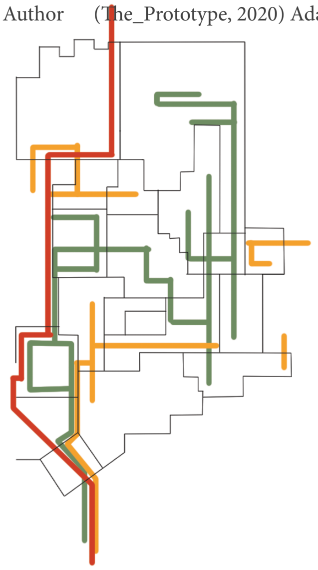


Figure 30: Circulation

(The_Prototype, 2020) Adapted by Author

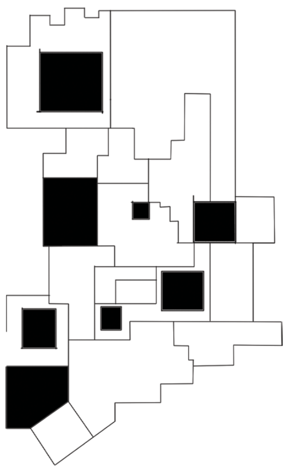


Figure 33: Light

(The_Prototype, 2020) Adapted by Author

3.5. Aesthetics as an interactive journey by means of the senses

> "Spaces, places, and buildings are undoubtedly encountered as multisensory lived experiences. Instead of registering architecture merely as visual images, we scan our settings by the ears, skin, nose, and tongue." – Pallasmaa (Spence, 2020: online)

The term "aesthetics" comes from the Greek word "aisthēsis", which refers to our senses and how we interact with them. The aesthetics of architecture does not just refer to the appearance of the architecture but rather to the sensory perception, understanding, or sensuous knowledge that we have of architecture. An aesthetic experience of the built environment is an involvement of all the senses.

The architect must act as a composer that orchestrates space into a synchronization for function and beauty through the senses, and how the human body engages with space is of prime importance. As the human body moves, sees, smells, touches, hears, and even tastes within a space, the architecture comes to life.

Rhythms of the composition of architecture can be felt by the users. Architects can guide users through spaces, orchestrating their paths, by arranging spatial sensorial features through functional and aesthetic rhythms. According to Pallasmaa, "Aesthetic architecture is architecture for the senses which offers a reconciliation between ourselves and the world". (Spence, 2020: online) This mediation takes place through the senses and evokes a deeper level of elevated experience.

To truly incorporate the aesthetics of architecture into the design, would require a cross-modal integration of multiple sensory inputs. A sense-by-sense approach, or focusing on only one sense, neglects the fundamentally multisensory nature of the mind, and of the many interactions that take place between the senses. In "The Complex Interplay Between Multisensory Integration and Perceptual Awareness" the authors discuss the relationship between the senses and a human's awareness. Our level of perceptual awareness is influenced by the dynamic interplay between multisensory integration which has been embedded into our built environment. (Spence, 2020: online)

Furthermore, in "Senses of Place" by Charles Spence, (Spence, 2020: online) Spence explores how our sensory experience is influenced by our perception of the spaces we inhabit, and how architectural design can shape those experiences. He argues that as architects we need to consider all the senses when designing the built realm because each sense plays a critical role in shaping our journey through, as well as our perception of a place.

Spence investigates the role of sound, lighting, texture, and scent in architectural design, and provides numerous examples of how these elements can be combined to create more immersive and engaging spaces. Through a more holistic approach to architectural design, considering the dynamic interplay between the physical environment and our sensory experiences within it, an immersive architectural experience can be generated.

Applying the concept of aesthetics to construe a peregrination through spice, investigated the ocular scope (sight), haptic architecture (touch), the aural realm (sound), the odours of design (smell) and the gustatory edifice (taste). Constructing a peregrination through spice would require a multisensory exploration of a promenade through the site.

The ocular scope is the most common sense that is catered for in architectural design. The visual appeal of a building often shapes a person's initial feelings toward it. Within the boundaries of extending the visual feel of the building to become a multisensory element, is where aesthetics can truly be appreciated.

In the aural realm, the sound of architecture is indefinitely linked to the character of the building. Spence quoted Pallasmaa and said that "every building or space has its characteristic sound of intimacy or monumentality, rejection or invitation, hospitality or hostility" (Spence, 2020). The sound of a building is evoked through the spatial layout of the building and the materials that compose these spaces. Haptic architecture, the texture, and feel of buildings is also solely dependent on the composition of materials that make up the built environment.

> "Although architecture is often defined in terms of abstractions such as space, light, and volume, buildings are above all physical artifacts. The experience of architecture is palpable: the grain of wood, the veined surface of marble, the cold precision of steel, the textured pattern of brick." (Rybczynski, 2001, p. 89)

It is often the odour of the space that comes to mind when a person reminisces on buildings that they have visited in their past. These olfaction and gustatory edifices of a building construct the strongest memories that we have of a space. Consider the aroma of fresh bread being taken out of the oven and what childhood memories it evokes of people and place.

The manner in which the senses were applied to the dissertation will be highlighted and demonstrated in Chapter 05.

A key element in Indian architecture is the notion of existence, which rests on dualities. Dual existence simultaneously accepts the parts as a whole and the whole as parts and gives rise to the concept of a world within a world. Each entity is complete yet still a part of a larger system. A microorganism within a cosmos. This is an effective tool to accommodate diversity while still respecting the common bond of unity. A balance between the two is reached through the notion of centers and sub-centers. Courtyards concretize this world within a world. They bring about subtle variations within unified expression and are obvious translations of these notions in architecture. Surrounded by the built mass, the courtyard creates an introverted response to the architectural environment.

In Indian architecture, opposites react as counterparts and reinforce each other, such as solid and void, light and darkness. A coexistence of extremes where one can only be experienced due to the presence of the other. Two opposites can be understood and unified when they are placed under a particular relation as a composition, which, due to their nature, compose a third entity that does not characterize either but rather the collective import of both. The harmony between the individual entities is expressed through aesthetics- colour, feeling, smell, appearance, and sound. This is shown best in Indian architecture through the symbiosis of built versus unbuilt. The courtyard is culturally and climatically relevant and is defined by the built. It becomes a theatre for spontaneous activities.

The Neue Staatsgalerie, designed by James Stirling (Kroll, 2011: online), which will be investigated further in Chapter 4.2, engages the users' visual senses through the interplay between light and shadow. The Acoustics of the museum provides an auditory experience whilst the materiality evolves an experience through touch. Overall, the museum offers a multi-sensory experience that engages visitors through the senses going beyond functionality and providing a truly immersive and enriching experience.

Conclusion

The culture of Indian spice has the nature of its own aroma- dynamic and vivid. The promenade has become the backbone of the building, emphasizing chronological progressions through time to evoke a narration and peregrination through the essence of the culture that has been woven into our city's landscape. This Chapter explored the theoretical underpinnings and influences that in turn became the foundations of the design.

The rich history of Indian spice and the culture thereof is like an aroma clinging to the skins of South Africans. It is embedded into our daily framework, shaping moments of interconnectivity and community echoing through our country and is a lived metaphor of our human being-in-the-world.

In summary, sensual architecture has a unique approach to spatial design. The harmony between individual elements harvests a respect and celebration of the local context, culture, and identity. As identified, some of the key elements are;

- The existence of time
- Dualities of existence
- A harmony of parts within a whole
- Bipolarity of existing elements
- Architectural nodes
- Datums

In the following Chapter the influencing designs, as well as the synthesis leading to the final design and construction thereof will be discussed.

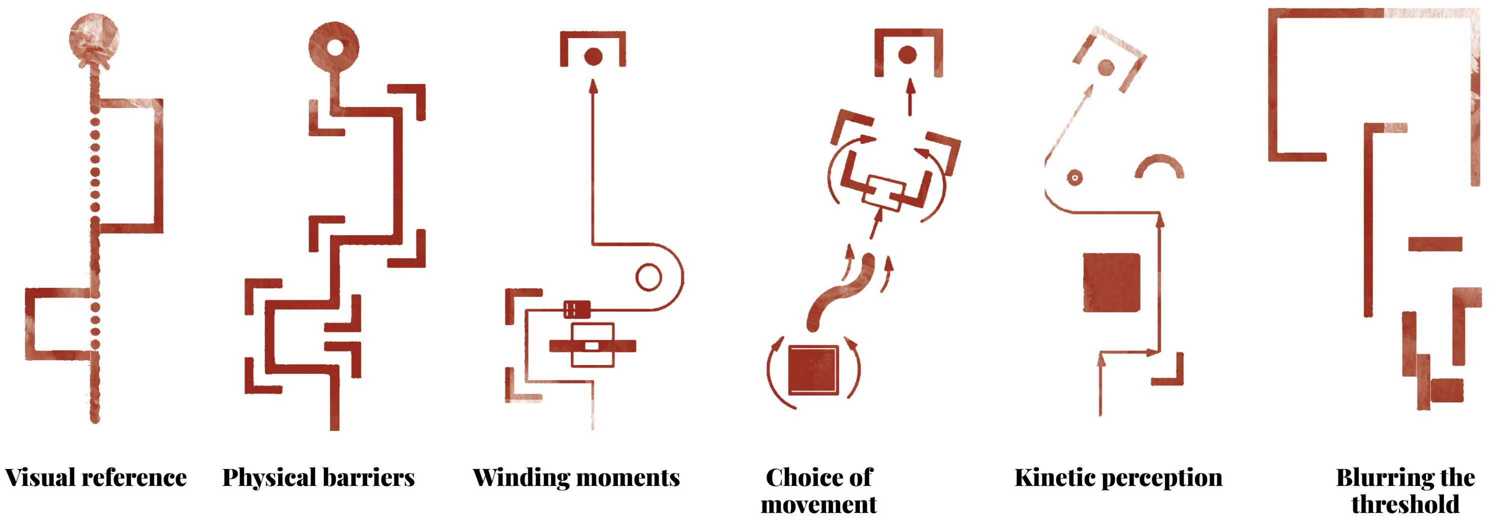


Figure 36: Highlighting aspects of Indian architecture (Pandya, 2016), Adapted by Author

Figure 37: Begining to uncover moments of peregrination throughout the dissertation (Author, 2023)

Figure 38: Piecing together layers of the site

(Author. 2023)

04 SITE ANALYSIS

of Roseneath

PART

4.1

Typological studies

The typological studies involved an investigation into the accommodation lists and the specific roles required for these functional spaces. These studies were compiled using precedent studies and investigations into spice farming.

4.2

Precedent studies

Investigations into the precedents, The Garden of Fine Arts by Tadao Ando, The Neue Staatsgalerie by James Stirling, and The Church of the Light by Tadao Ando, resulted in a stronger foothold going into the beginning stages of the design development.

FOUR

4.3

Topological studies

The "Topological Studies" investigated the site and its surroundings. Journeying from the province of Kwa-Zulu Natal to the city of Durban and ending in the town of Roseneath.

4.1. Typological studies

4.1.1. Accommodation

PUBLIC

SEMI-PUBLIC

PRIVATE

Art Gallery

Storage (25 m^2)
Office (35 m^2)
Kitchenette (7 m^2)
Ablutions (10 m^2)
Exterior ablutions (14 m^2)
Reception (10 m^2)
Exhibition space (150 m^2)
Circulation (19 m^2)

TOTAL- **270** m^2

Restaurant

Cold Storage (7 m2)
Dry Storage (5 m2)
Kitchen workspace (40 m2)
Staff lockers (7,5 m2)
Ablutions (14,5 m2)
BOH & refuse (45 m2)
Indoor seating (135 m2)
Outdoor seating (77 m2)
Storage (16 m2)
Circulation (51 m2)

TOTAL- **398** m2

Spice Boutique

Staff entrance & clock in (46 m2)
Ablutions (41 m2)
Staff breakaway & kitchenette (38 m2)
Outdoor seating terraces (100 m2)
Spice boutique (393 m2)
Spill out space (287 m2)
Storage (26 m2)
Circulation (124 m2)

TOTAL- **1055** m2

Spice Workshop

Ablutions (7 m2)
Cold room & storage (8,5 m2)
Dry Pantry (10 m2)
Workshop floor space (60 m2)
Circulation (9,5 m2)

TOTAL- **95** m2

Tea Lounge

Floor space (290 m2)
BOH (60 m2)
Ablutions (16 m2)
Circulation (12 m2)

TOTAL- **378** m2

Spice Production

Administration
Front of house (35 m2)
Offices (41 m2)
Staff
Staff area and kitchenette (44 m2)
Ablutions and showers (41 m2)
Lockers (13 m2)
Storage
Mass dry storage (92 m2)
Utility storage (15 m2)
Pump house (21 m2)
Cleaning Area
Winnowing and rinsing (52 m2)
Crate cleaning and storage (15 m2)
Mechanical cleaning and drying (66 m2)
Main Production
Production machinery (146 m2)
Packaging space (133 m2)

Delivery Area & BOH (40 m2)

TOTAL- **754** m2

4.1.2. Roles involved

4.1.2.1. Spice gardens & Spice production

Spice production involves various roles to aid in the cultivation, processing, and distribution of spices. The scale and specificity of the process result in the roles required. With the size of the spice farm in mind, the following roles will be required:

Farmers and Growers:
Farmers and growers are required to cultivate and grow spice plants with the understanding of the specific requirements of each spice plant, namely soil conditions, climate, irrigation, as well as pest management.

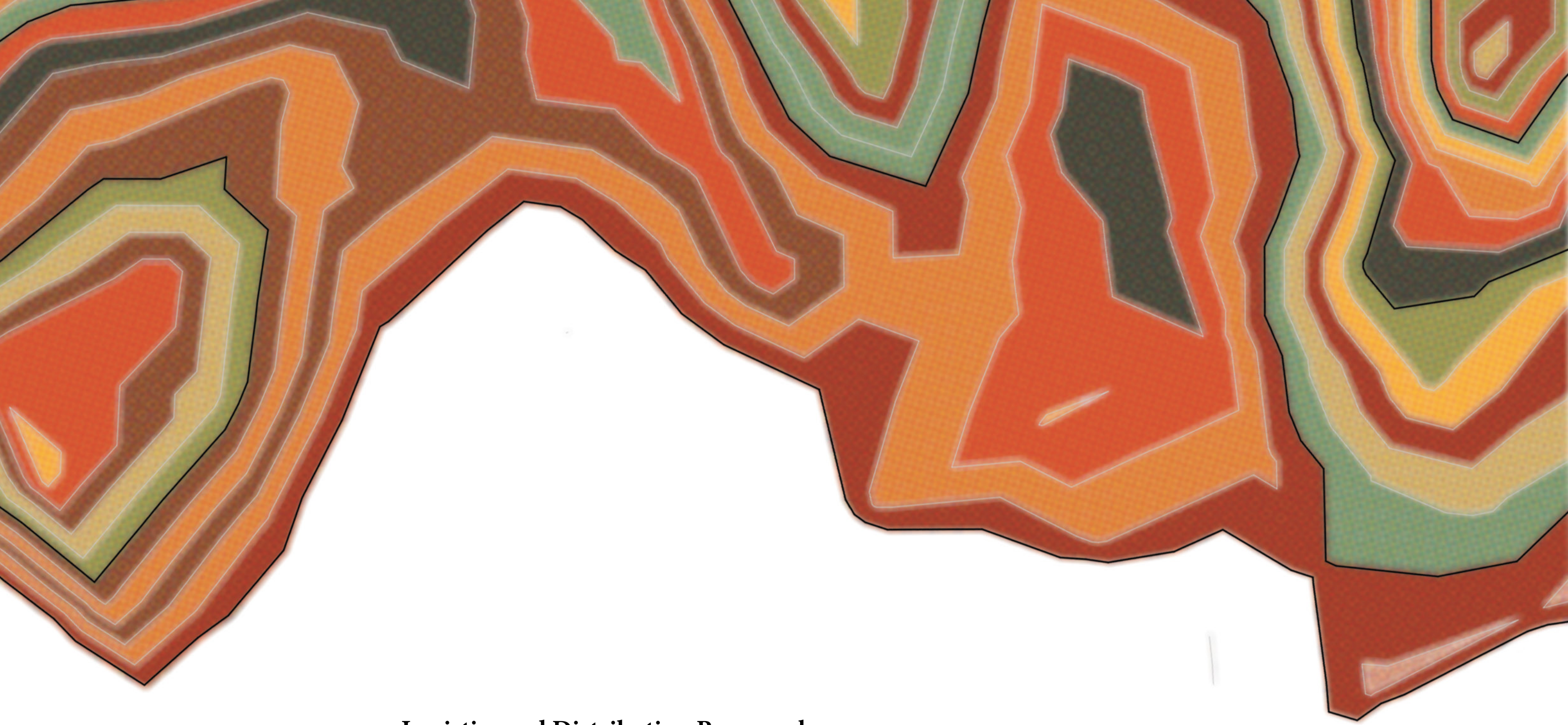
Agronomists:
Agronomists will operate from an office and will have expert knowledge in crop science, soil management, and plant nutrition. They assist in optimizing crop yields, diagnosing, and treating plant diseases, and ensuring proper cultivation practices.

Harvesters:
Harvesters collect the ripe spice plants or plant parts, such as seeds, leaves, or fruits, at the right time to ensure maximum flavor and aroma.

Processing Workers:
Processing workers handle post-harvest operations, beginning with cleaning, drying, sorting, and preparing the raw materials for the mechanical cleaning process.

Quality Control Specialists:
They monitor and ensure the quality of spices at various stages of production. This includes testing for flavor, aroma, color, and other sensory attributes.

Packaging and Labeling Workers:
Packaging and labeling workers are responsible for packaging the processed spices in containers, such as bags, bottles, or jars, and labeling them with information about the spice, its origin, and usage instructions.



Logistics and Distribution Personnel:
Logistics and Distribution personnel coordinate the transportation and distribution of spices from the production facility to retailers, wholesalers, and consumers. They manage inventory, storage, and transportation logistics.

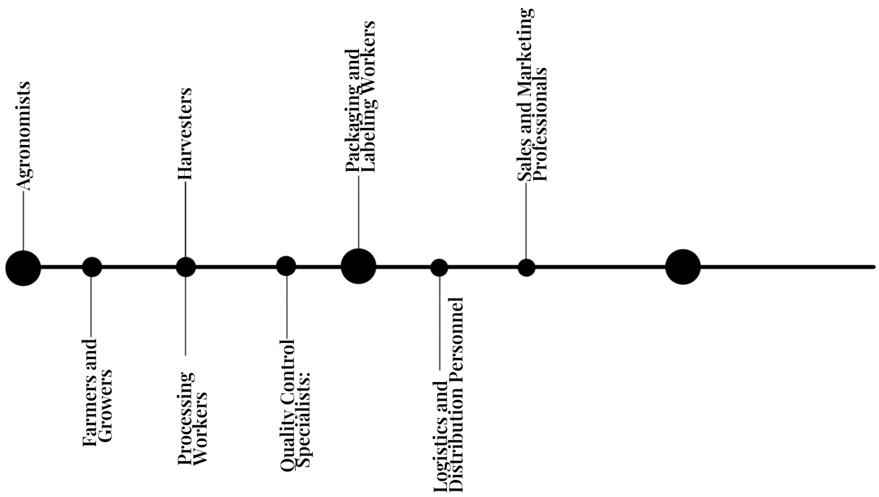
Sales and Marketing Professionals:
These professionals promote and sell the spices to retailers, wholesalers, and consumers. They may develop marketing strategies and establish relationships with buyers.

Environmental and Sustainability Experts:
These experts ensure that spice production practices are sustainable and environmentally friendly. They consider measures to conserve water, reduce waste, and minimize the ecological impact of the spice farm.

Mechanics and Engineers:
Due to the nature of the machinery required in the production space, engineers and mechanics are required to maintain and repair the equipment.

Human Resources and Administrative Staff:
HR will manage the workforce, and handle payroll, recruitment, and other administrative tasks to ensure the smooth operation of the production facility. (Indpro, 2023)

All the above-mentioned roles play a crucial part in the production of spice, from cultivation to distribution to ensuring that high-quality spices reach consumers whilst still adhering to industry standards and regulations.



4.1.2.2.
The Spice Boutique

Boutique Manager:
The Boutique Management is responsible for overseeing the overall operations of the spice boutique, including vendor management, customer service, and financial management. This individaul will ensure that the boutique runs efficiently and meets its goals.

Vendors:
Vendors are the heart of the spice boutique and are mainly in charge of selling spices. Their role would involve engaging with customers, answering their questions, providing information about the origin and purpose of the spices, and addressing any concerns they may have. They play a crucial role in creating a positive experience.

Security Personnel:
Security Personnel ensures the safety and security of vendors, customers, and the boutique premises. They monitor any suspicious activities within the boutique and throughout the framework of the spice farm and handle emergencies, should they arise.

Maintenance Crew:
The maintenance crew are responsible for the upkeep and cleanliness of the boutique area. This includes regular cleaning, repair work, and ensuring that the boutique facilities are well-maintained.

(Indpro, 2023)

4.1.2.3.
The Restaurant

General Manager:
The General Manager is a key person in the running of the restaurant. They oversee day-to-day operations, manage staff, ensure quality control and compliance with health and safety regulations, as well as address customer concerns. This includes staff scheduling, inventory management, financial reporting, and customer relations. It is also the manager's responsibility to train new employees, ensuring that staff members are knowledgeable about the menu and service standards, and provide ongoing training as needed.

Executive Chef:
The executive Chef runs the kitchen. They are in charge of managing the kitchen team as well as the menu, recipes and overseeing the food preparation.

Line Cooks:
Line Cooks prepare and cook dishes according to established recipes and standards. They work on different sections of the kitchen, such as appetizers, mains, and desserts.

Cleaning Staff:
The role of a cleaning staff is to assist in various kitchen tasks as well as ensure that the cleanliness of the restaurant as a whole is set to a certain standard. This will include but is not limited to, dishwashing, cleaning, and maintaining general hygiene.

Server/Waitering staff:
Waitering staff and Servers take orders, serve food and drinks, and provide excellent customer service. They are the main point of contact between customers and restaurant.

(Nelson, 2023)

4.1.2.4.

Art Gallery & Workshop

Gallery Manager:
The Gallery Manager handles day-to-day operations, including scheduling, budgeting, staffing, and administrative tasks. Their role is to coordinate with artists, clients, and vendors, handling logistics involving installation, and de-installation of artworks.

Floor staff:
The Floor staff engages with visitors and collectors, providing additional information about artworks and pieces.

Gallery Assistant or Receptionist:
The Receptionist supports day-to-day operations, including greeting visitors, answering inquiries, and maintaining the gallery's appearance.

Workshop Instructors:
The Workshop instructors lead art workshops, classes, and events. They instruct participants in various culinary and artistic techniques and provide guidance and tours during the process.

Workshop Coordinator:
The Workshop Coordinator will work closely with the Workshop instructors and will organize and schedule spice workshops, manage participant registrations, and ensure necessary supplies, spices, and utensils are available.

Educational Director:
The Educational Director develops programs and initiatives, including lectures, history talks, and educational materials to engage the community. This involves developing partnerships with local organizations, schools, and other community groups to expand the gallery's reach and impact.

Financial Manager:
The Financial manager plays a key role in the success of the art gallery and workshops. They manage the gallery's finances, including budgeting, bookkeeping, invoicing, and financial reporting.

(Smithsonian, 2002)

4.1.3. Typical Flow in Spice Production

Step 01 - Cultivation

The initial phase of spice production involves collaboration among Farmers, Growers, Harvesters, and Agronomists. Agronomists, operating from an office, study soil conditions, manage crop rotations and determine optimal growth periods for specific plants to maximize each harvest. Farmers oversee gardeners responsible for planting and ultimately harvesting the crops, primarily using manual harvesting methods.

Step 02 - Cleaning & Drying

After harvesting, the plants are gathered in crates and delivered to the first group of processing workers, who conduct the initial cleaning of the spices before placing them into the cleaning and drying machine. Subsequently, the processed spices advance to the roasting and grinding phase.

Step 03 - Roasting and Grinding

This team of processing workers operates the roasting and grinding machinery. The cleaned and dried plants are fed into the machines, where they are roasted and ground before undergoing final quality control checks. The end product exiting these machines consists of finished spices, subject to evaluation by quality control specialists before proceeding to the packaging stage.

Step 04 - Spice Packaging

Upon completion of the roasting and grinding process, the finished spice products are collected in bins and transported to the packaging station. There, packaging and labeling workers add product descriptions and labels before placing the spices into larger boxes for storage ahead of delivery.

Step 05 - Storage and Distribution

The logistics and distribution team collaborates closely with sales and marketing professionals to coordinate the transportation of spices to retailers, wholesalers, and consumers.

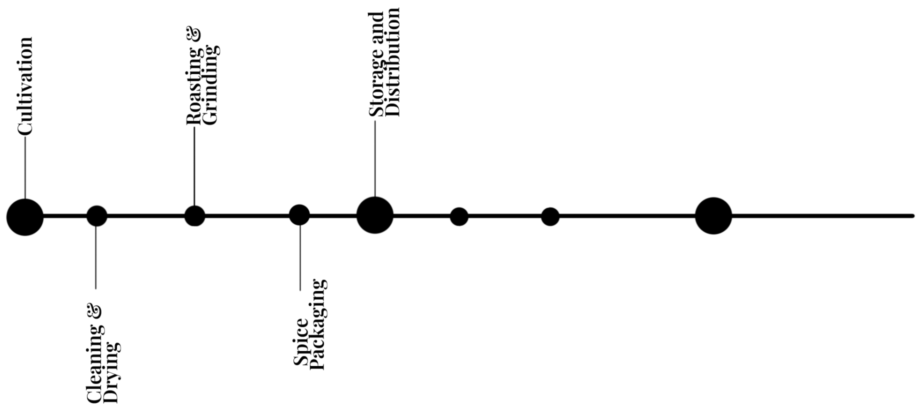


Figure 39: The Garden of Fine Arts as an architectural promenade (Zeballos, C, 2023: online) Adapted by Author

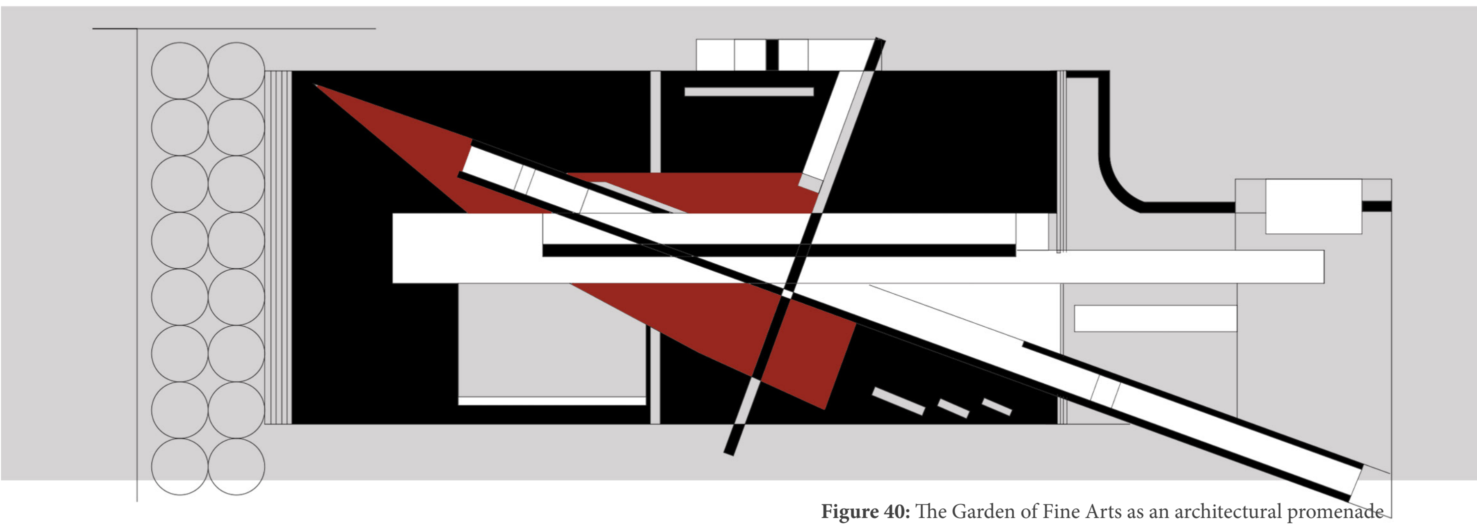


Figure 40: The Garden of Fine Arts as an architectural promenade (Zeballos, C, 2023: online) Adapted by Author

4.2. Precedent studies

4.2.1. Garden of Fine Arts by Tadao Ando

The Garden of Fine Arts designed by Tadao Ando, is located in Kyoto, Japan, and was completed in 1994. Similar to Villa Savoye by Le Corbusier, one of the main design principles that Ando applied to the Garden of Fine Arts is the concept of promenade architecture. This approach is based on the idea that a building should be experienced as a journey, rather than just a collection of spaces.

In the Garden of Fine Arts, the peregrination is evident in the way visitors move through the space. They are led on a winding path that gradually reveals and conceals different areas of the garden and the surrounding landscape. The path starts at the entrance and takes visitors through a meandering series of courtyards, gardens, and water features. Along the way, visitors are encouraged to pause and take in the views before continuing their journey. The promenade culminates in a central courtyard, where visitors are greeted with a view of the main building and the surrounding landscape.

The Garden of Fine Arts is a beautiful example of how promenade architecture can be used to create an immersive and engaging architectural experience. By designing the space as a journey, Ando was able to create a sense of anticipation and discovery, encouraging visitors to explore and engage with the space.

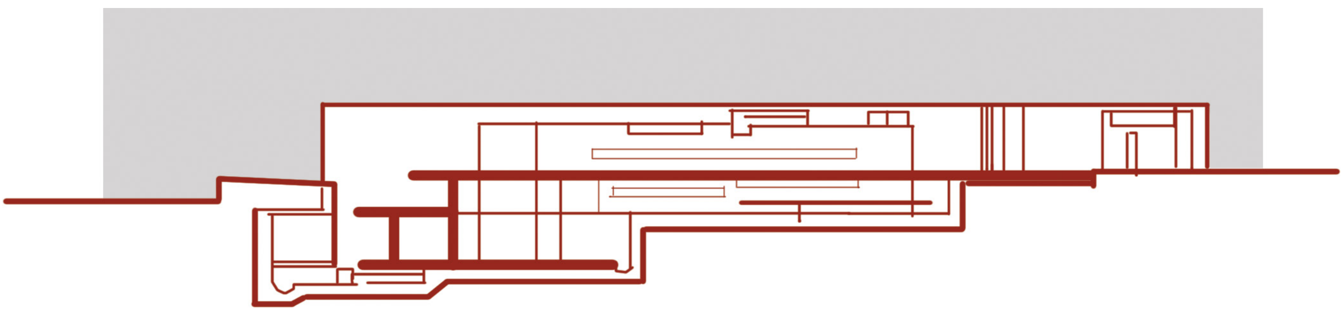


Figure 41: Layers within the Garden of Fine Arts (Zeballos, C, 2023: online) Adapted by Author

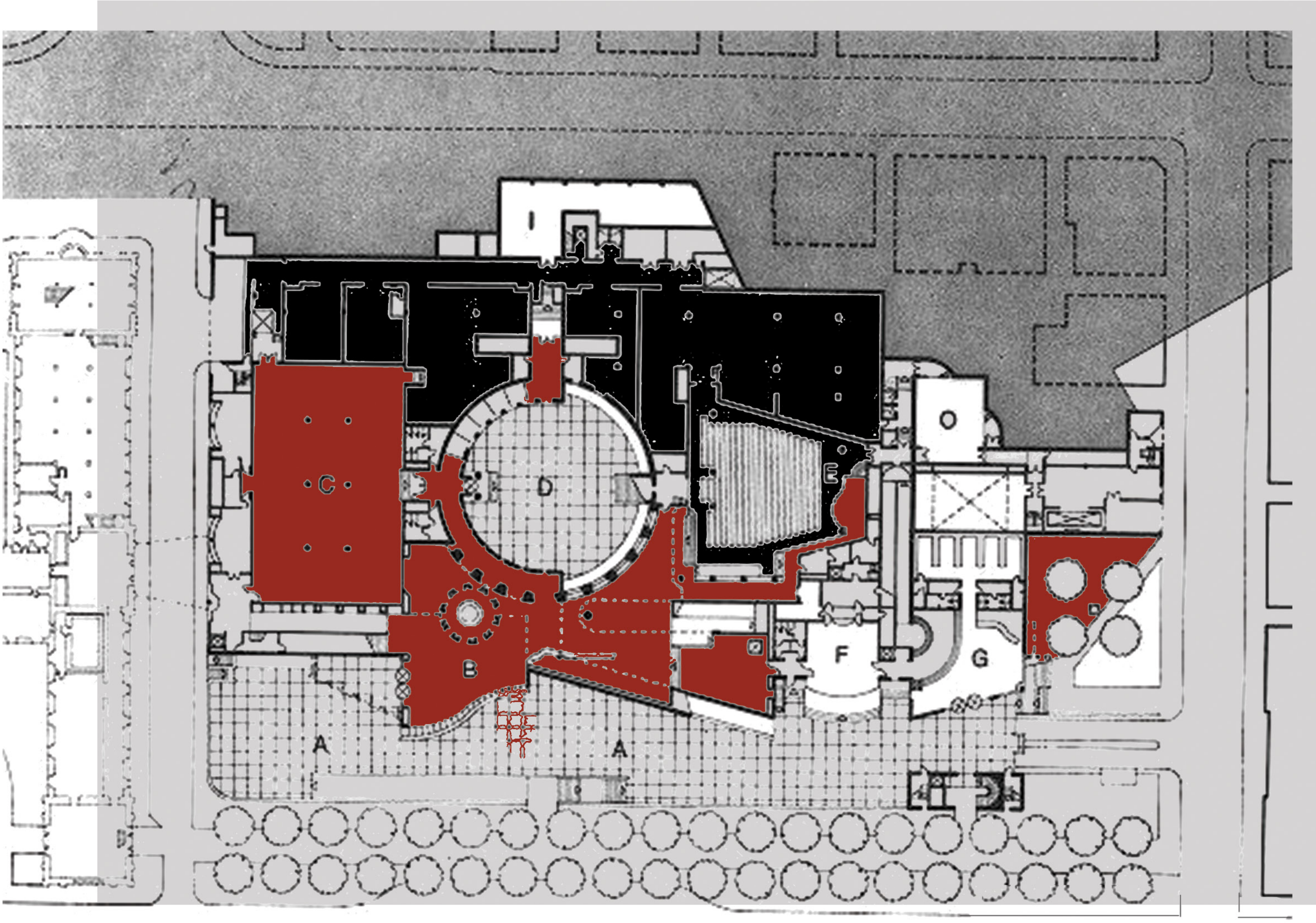


Figure 42: The Neue Staatsgalerie, circulation as an experience (AKroll, 2023: online) Adapted by Author

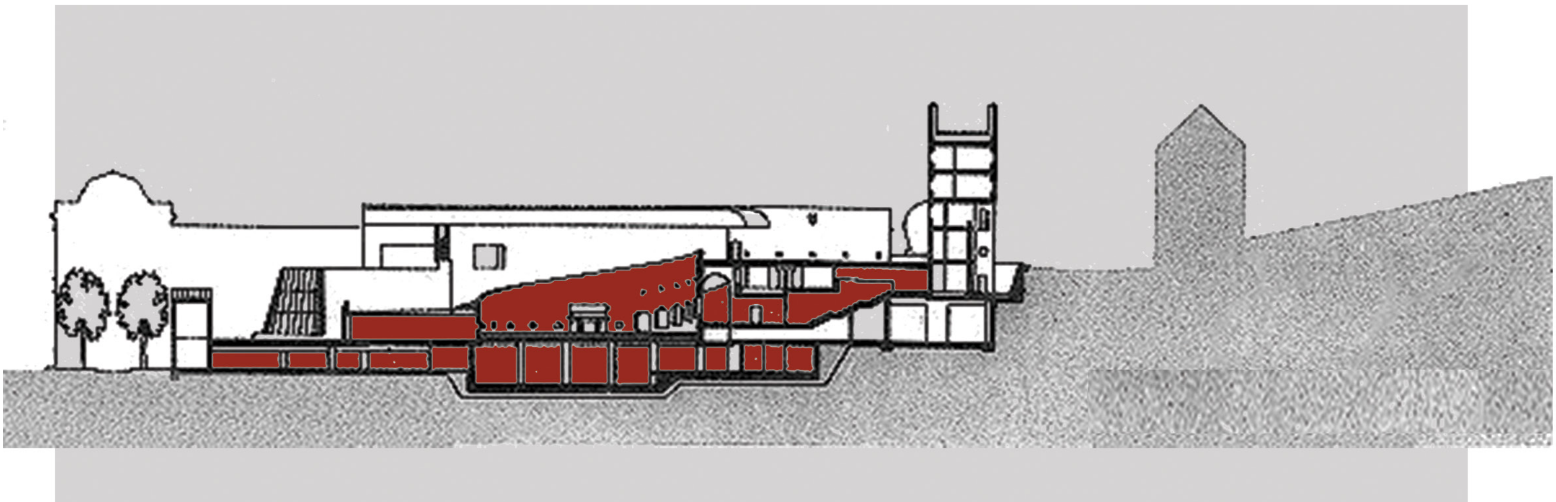


Figure 43: The Neue Staatsgalerie, circulation as an experience (AKroll, 2023: online) Adapted by Author

4.2.2. The Neue Staatsgalerie by James Stirling

The Neue Staatsgalerie is a museum in Stuttgart, Germany, designed by the British architect James Stirling and was completed in 1984. One of the distinctive features of the building is its circulation system, which Stirling conceived as an integrated part of the exhibition experience.

Stirling's design centers around a central atrium, which serves as a hub for circulation as well as orientation. From the atrium, visitors can access the museum's various galleries and exhibition spaces, as well as a café, bookstore, etc.

Stirling's approach to circulation was informed by his belief that architecture should be expressive and dynamic, and that movement through a building should be a memorable experience. He therefore incorporated a variety of spatial strategies into the design of the Neue Staatsgalerie, including ramps, bridges, and changes in level, which create a sense of movement and dimension as visitors meander through the museum.

Stirling's circulation system also serves a practical purpose, helping to orientate and guide visitors through the museum's collection of exhibition spaces. By making circulation an integral part of the exhibition experience, he sought to create a building that would engage and inspire visitors in multiple ways, both through the art on display as well as through the experience of moving through the space.

Figure 44: The Neue Staatsgalerie
(AKroll, 2023: online) Adapted by Author

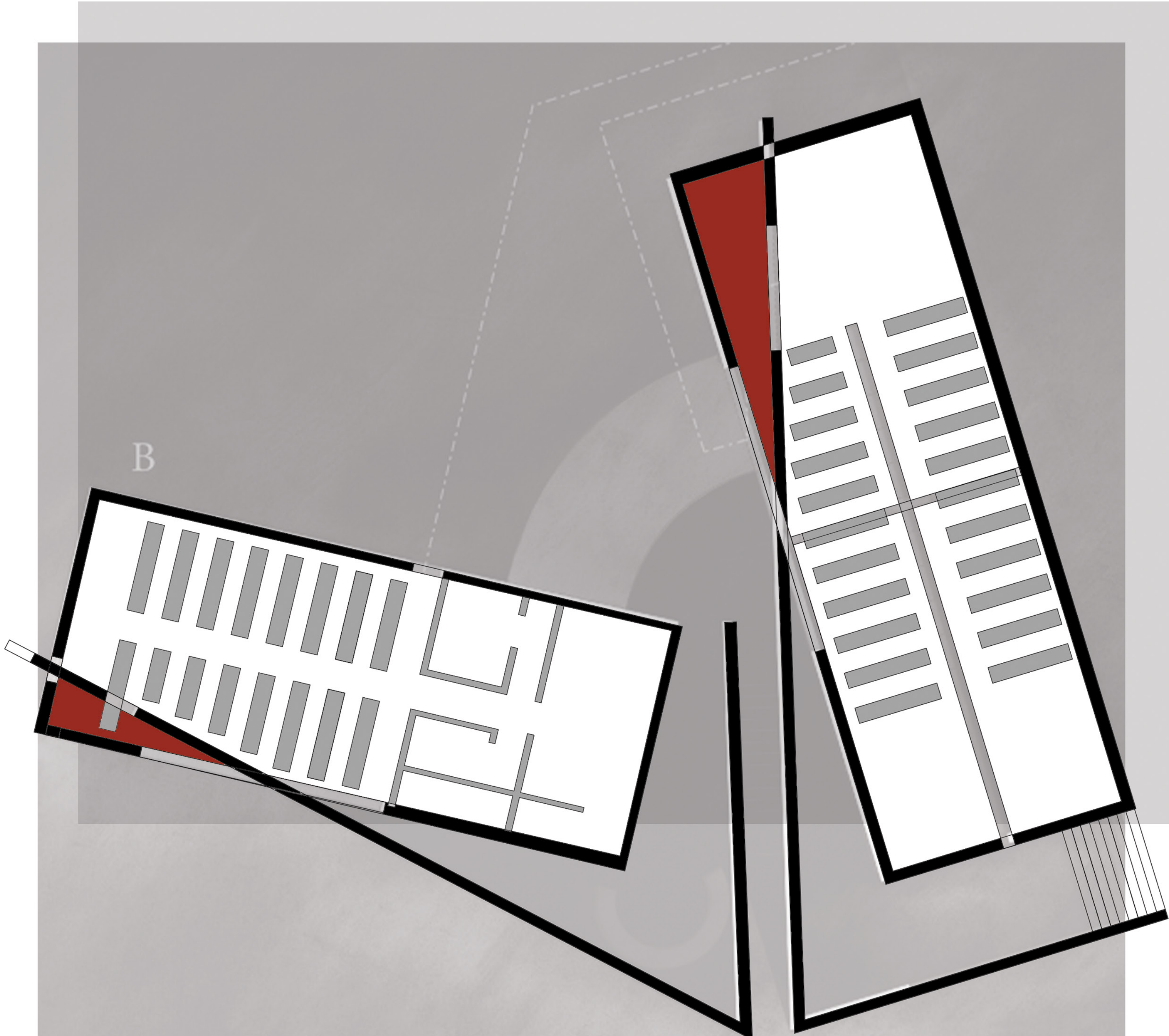


Figure 45: Church of the light, guiding and framing walls
(AKroll, 2023: online) Adapted by Author

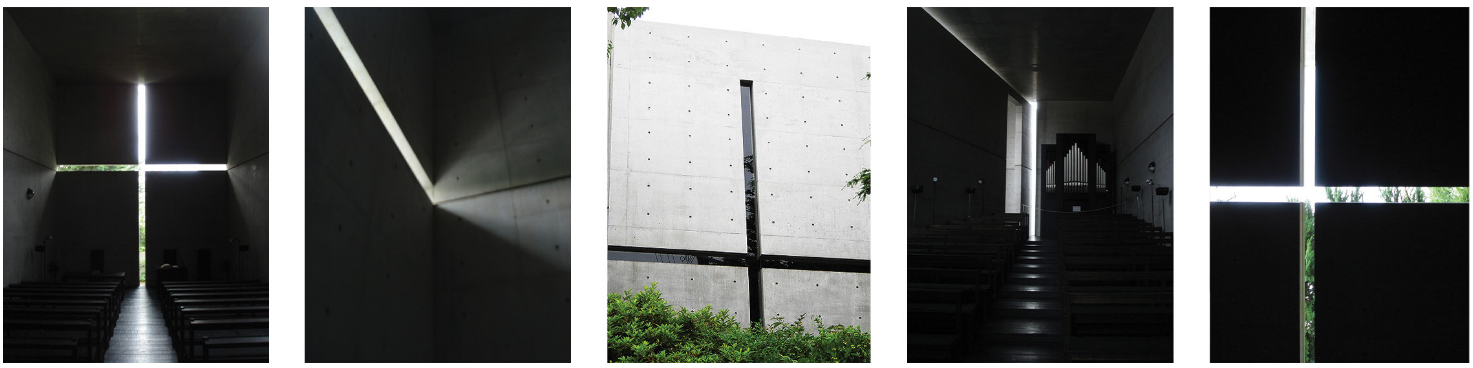


Figure 46: Church of the light
(AKroll, 2023: online) Adapted by Author

4.2.3. Church of the light by Tadao Ando

The Church of the Light emphasizes the interplay between light and shadow combined with the carefully orchestrated sequence of spaces, creates a sense of reverence and contemplation. The walls also serve as guiding elements that lead visitors through the space and create a series of narrow passages and openings that frame views of the surrounding landscape.

Figure 47: Church of the light, guiding and framing walls (AKroll, 2023: online) Adapted by Author

4.3. Topological studies
4.3.1. Macro analysis

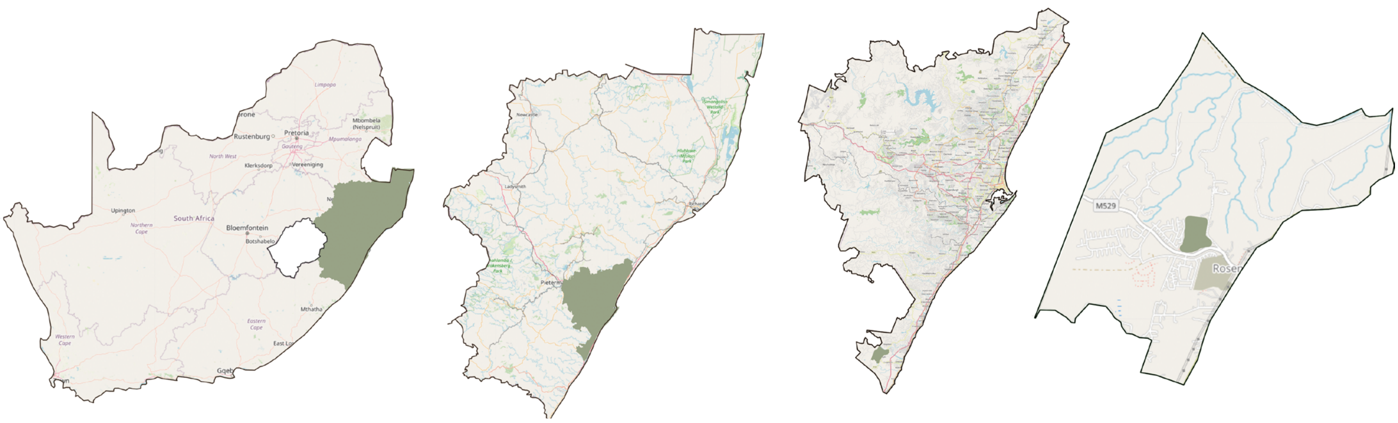
Kwa-Zulu Natal, also known as KZN is located along the east coast of South Africa. The area is known for its diversity in landscapes and vibrant cultures.

The topology of KZN hosts a diverse range of landscapes such as the coastal region found along the Indian Ocean, the fertile Valley of a Thousand Hills, and the majestic Drakensberg Mountains. These geographical variations are key contributions to tourism in the area, which has become one of the provinces significant economic benefactors. Alongside tourism, Kwa-Zulu Natal is known for its agricultural activities, producing crops such as sugarcane and citrus fruits.

The locality of KZN resulted in the province becoming a maritime trade route for spices between India and many other parts of the world. This led to the aromatic culture of KZN being deeply rooted in Indian as well as Zulu traditions and history, celebrating both these cultures through music, dance, art, and food.

Indian laborers were brought to KZN in the 19th and early 20th centuries to work on sugar cane plantations. These laborers brought with them Indian spices and culinary traditions which have become an essential part of the culture found embedded in the framework of KZN. The legacy of the Indian spice trade is evident in the architecture, food, language, and traditions of Kwa-Zulu Natal, this is due to many families preserving their ancestral connections to India and continuing to celebrate their heritage through cultural events, religious practices, and traditional customs.

The architecture of Kwa-Zulu Natal reflects this diversity of history, culture, and natural surroundings. Traditional Zulu designs, colonial-era buildings, Indian-inspired structures, and modern developments all contribute to the province's architectural diversity and cultural identity.



South Africa **Kwa-Zulu Natal** **Durban** **Roseneath**

Figure 48: Locating the site within the greater scheme (Author, 2023)

Figure 49: Conceptual mapping of Kwa-Zulu Natal (Author, 2023)

4.3.2. Meso analysis

Durban is one of the many coastal cities located in KZN and is known for its beaches, diverse culture, and vibrant atmosphere.

The city can be seen as an economic as well as cultural hub for the province of KZN, with the Durban harbour being one of the busiest in Africa. Indian influence is especially prominent in Durban. This can be seen through markets like the Victoria Street Market, where a wide variety of Indian spices, herbs, and ingredients are sold. This market has become a communing space for both locals and tourists looking to experience the vibrant Indian culinary heritage of the city. Furthermore, Indian culture is celebrated through traditional Indian festivals such as Diwali (Festival of Lights) and Holi (Festival of Colours).

The architecture of Durban reflects its history of colonialism, Indian immigration, cultural diversity, and urban development. The city's buildings showcase a rich tapestry of styles, from colonial and Victorian to modern and contemporary, creating a unique architectural landscape that tells the story of Durban's evolution over time.

In essence, Durban's heart lies in its ability to seamlessly weave together its history, architecture, and cultural influences into a tapestry that beckons exploration. Its streets tell the stories of Indian spices that dance on taste buds and architectural moments that echo its diverse heritage. Durban, a city where past and present harmonize, invites visitors to traverse thoroughfares and embark on a journey that peregrinates through time, culture, and imagination.

Figure 50: The Victoria Street Market (Durban CBD - Bond & Victoria Streets, 2023: online) Adapted by Author

DURBAN

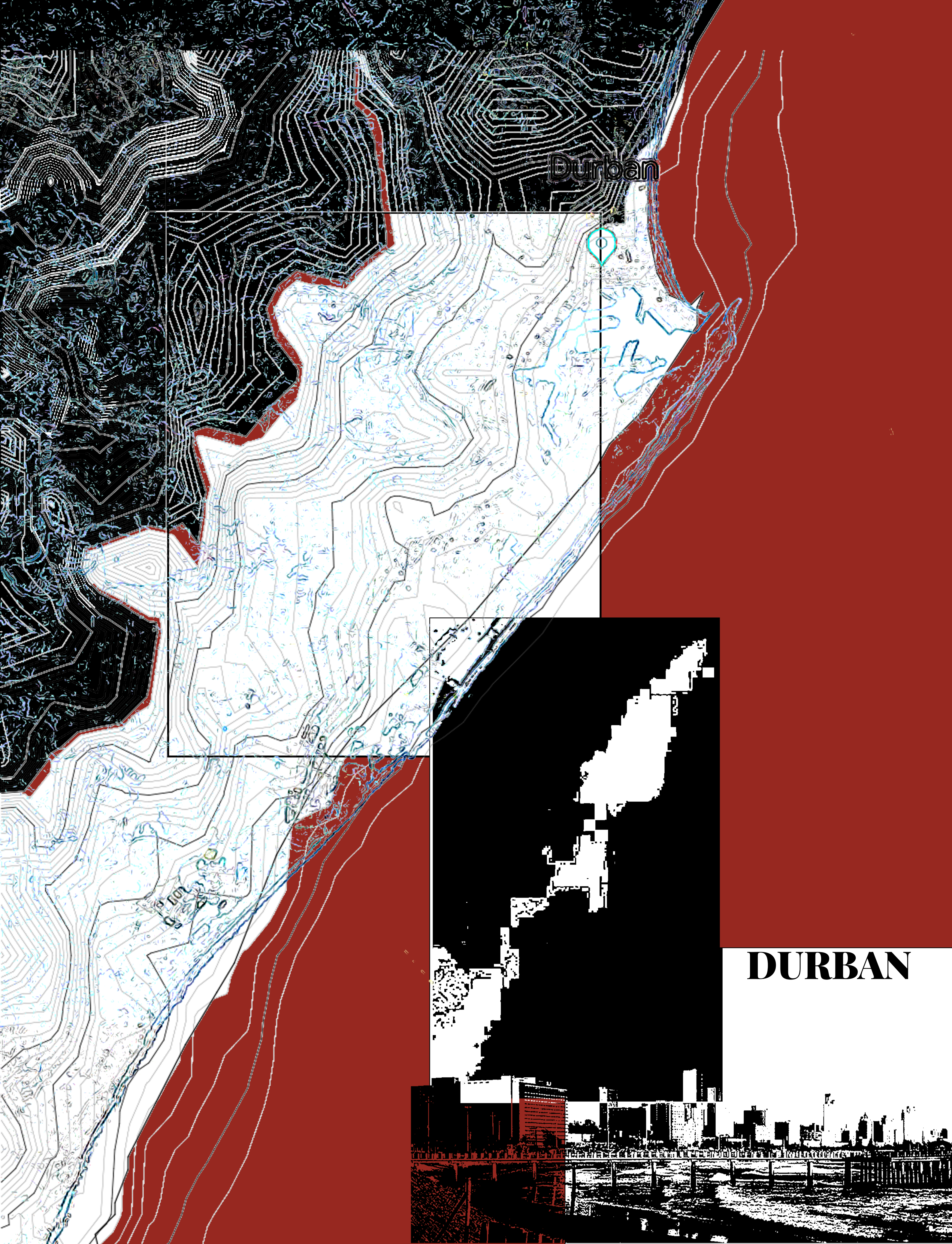


Figure 51: Conceptual mapping of Durban (Author, 2023)

4.3.3. Micro analysis

Roseneath is a small town nestled within the eThekwini Local Municipality in South Africa's KwaZulu-Natal province, which graces the picturesque Midlands region. This locale is celebrated for its scenic beauty and thriving agricultural pursuits. Within its boundaries, Roseneath presents a harmonious blend of residential and farming spaces.

Despite its modest economic status, Roseneath holds a special place as the vibrant heart of the Indian community. The workforce comprises both blue-collar laborers as well as skilled and unskilled artisans. A key aspect of this community lifestyle is the practice of homegrown fruit and vegetable cultivation.

At the base of the nearby hill lies Sappi Saicor, a substantial influence on the livelihoods of many within the community. The town sustains a few small-scale hardware stores that cater to the needs of the majority, along with modest construction companies and mechanical repair shops. Sidewalks and street corners come alive with local vendors.

The preexisting site

Figure 52: Viewing the valley (Author, 2023)

Figure 53: Viewing the eastern elevation (Author, 2023)

Figure 54: Views from within the site (Author, 2023)

Figure 55: Conceptual mapping of Roseneath (Author, 2023)

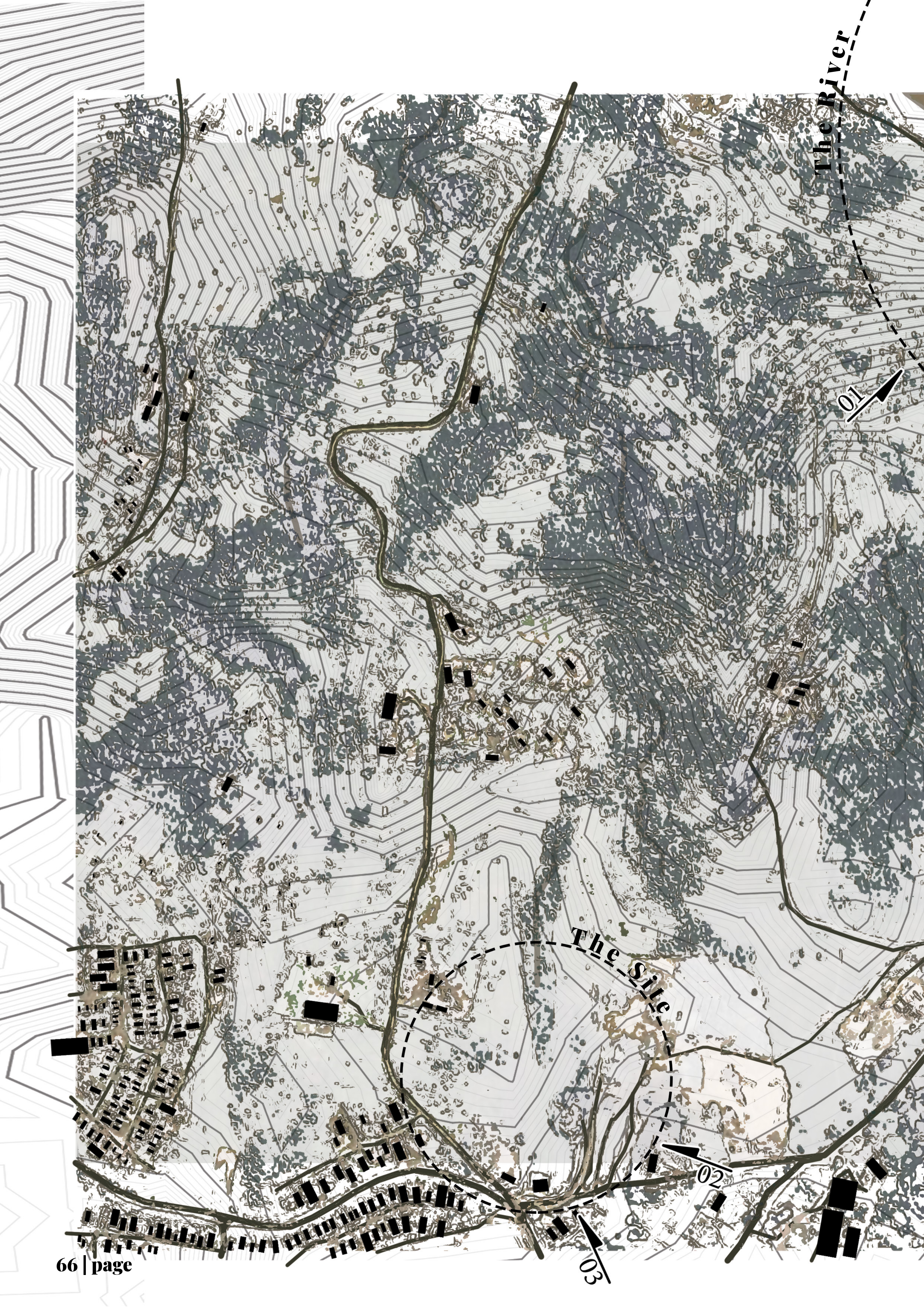

The River
The Site
01
02
03

Figure 56: The River (Author, 2023)

Figure 57: Northern elevation of the site (Author, 2023)

Figure 58: Southern elevation of the site (Author, 2023)

Figure 59: Viewing the site in context to its surroundings (Author, 2023)

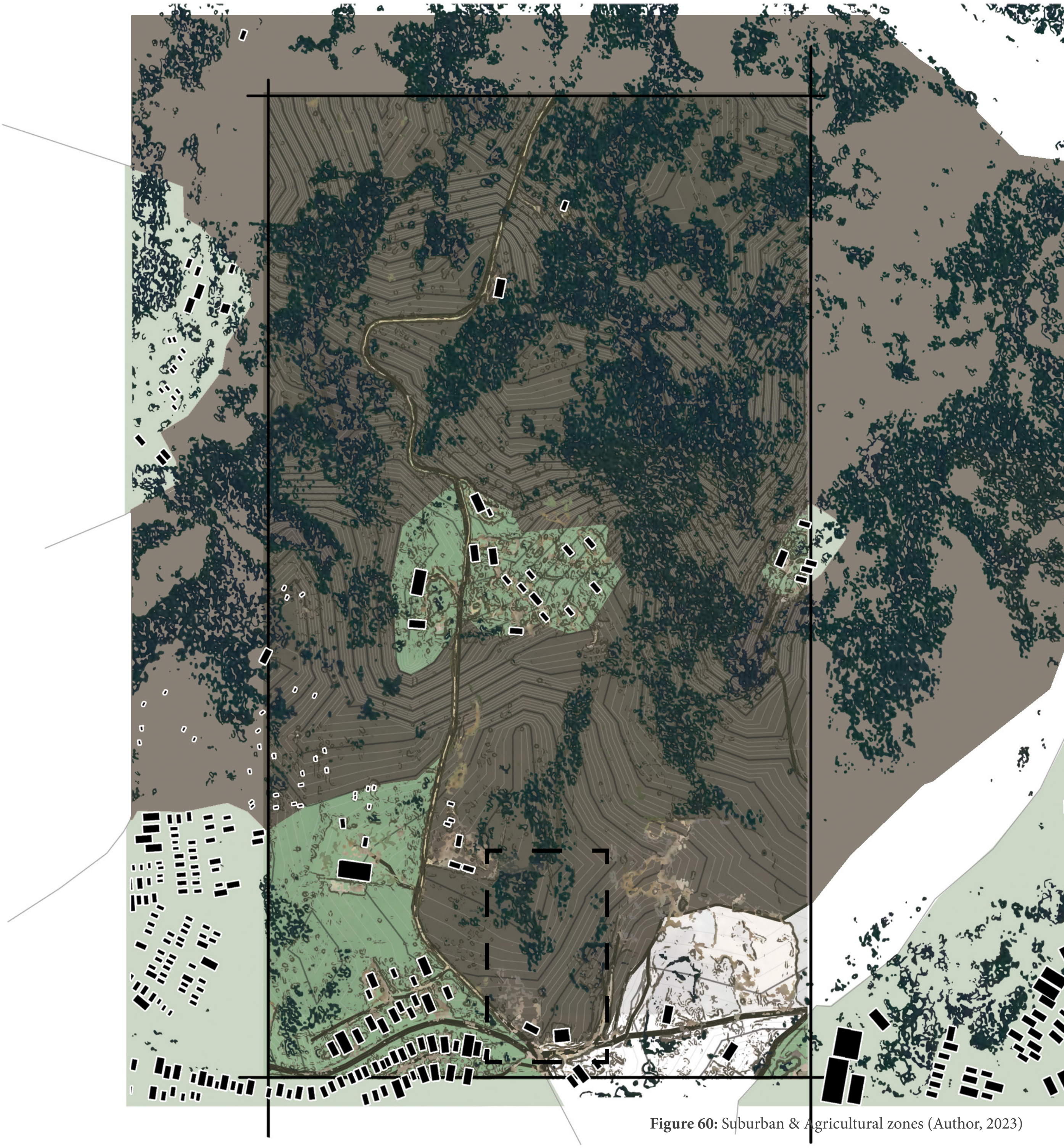


Figure 60: Suburban & Agricultural zones (Author, 2023)

4.3.3.1. Suburban & Agricultural zones

The site is nestled into the suburban boundaries of Roseneath, serving as the threshold between the northern farmlands and the southern residential area. The farmlands surrounding this site cultivate a diverse array of crops and yield various products, including sugar cane, an assortment of vegetables and fruits, and livestock like cows, goats and ducks. In contrast, the residential sector encompasses a mix of affordable housing and informal settlements, while the commercial sector provides essential amenities like a grocery store, a butcher shop, and a hair salon.

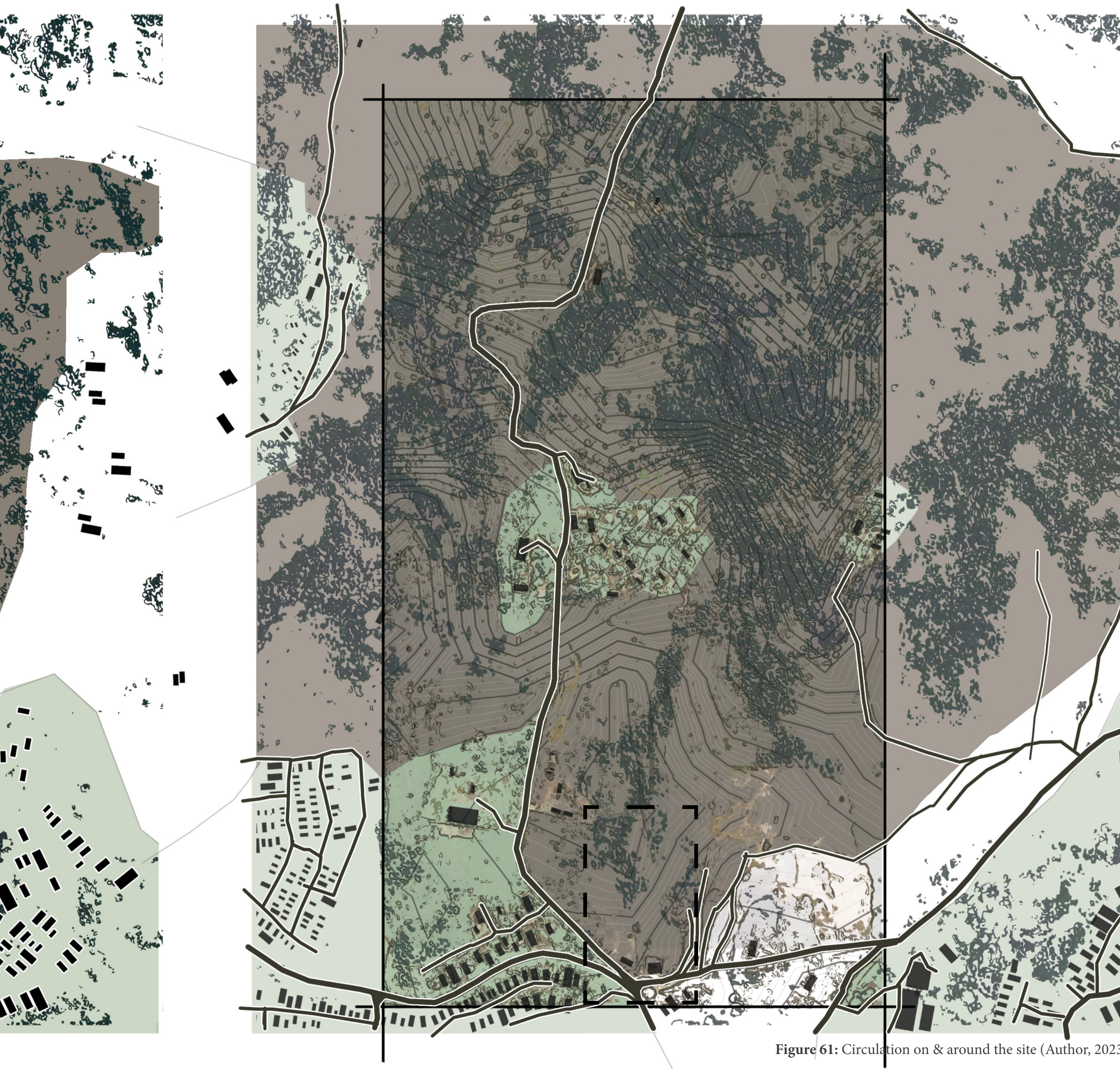


Figure 61: Circulation on & around the site (Author, 2023

4.3.3.2. Circulation on & around the site

The primary route through Roseneath is the R197 paved road, which subsequently divides into a network of unpaved and gravel pathways, providing access to both informal settlements and agricultural areas.

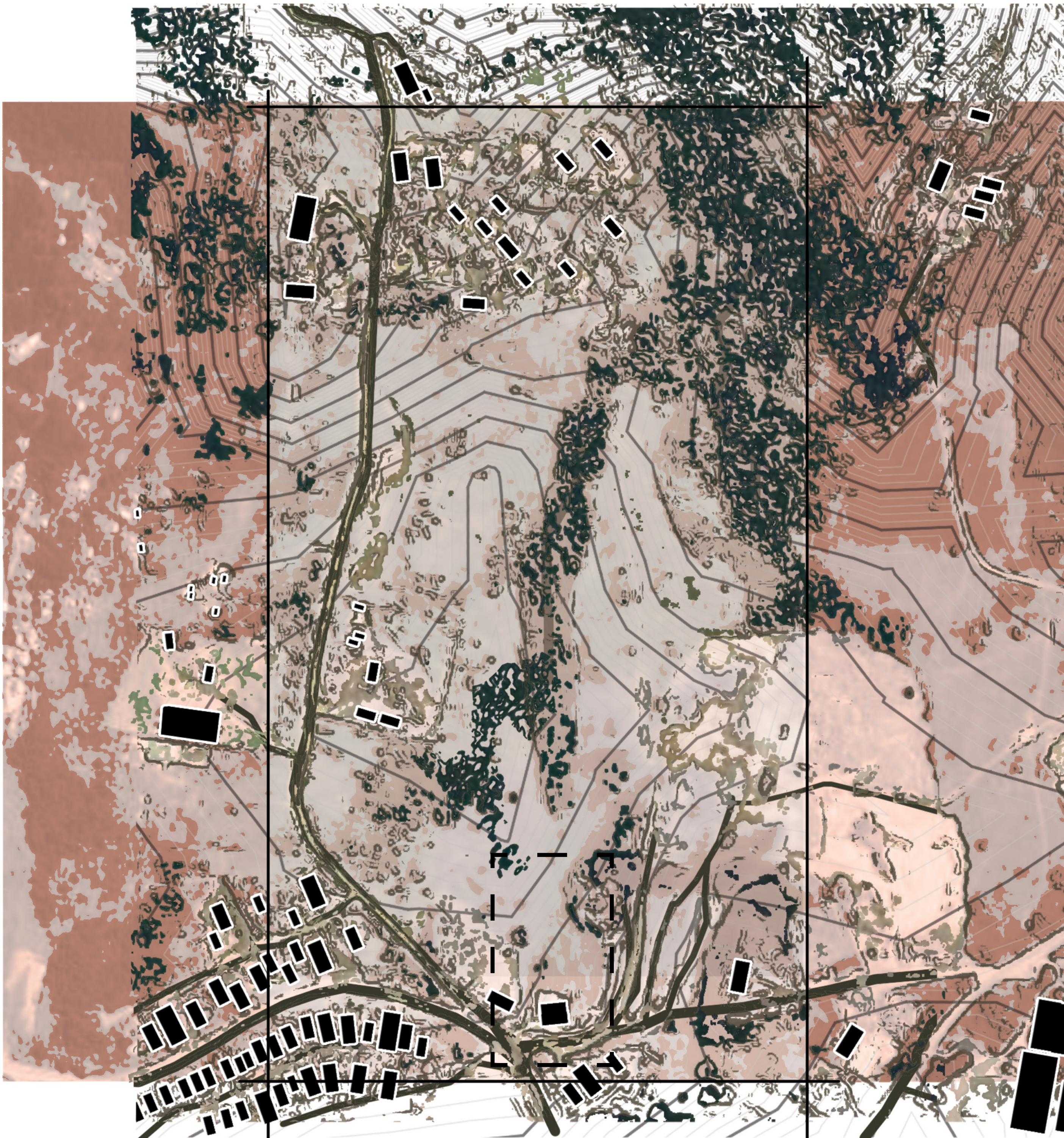


Figure 62: Existing architecture & vegetation (Author, 2023)

4.3.3.3. Existing architecture & vegetation

The site comprises two existing structures that presently serve as storage facilities for a nearby church's chairs. These buildings possess a simple rectangular design, and have been built using bricks and mortar, and feature flat concrete roofs.

The site's plant life consists of a mixture of overgrown grass and trees, including yellowwood and blue gum. Further details regarding the site's soil conditions will be addressed in Chapter 4.3.3.7.

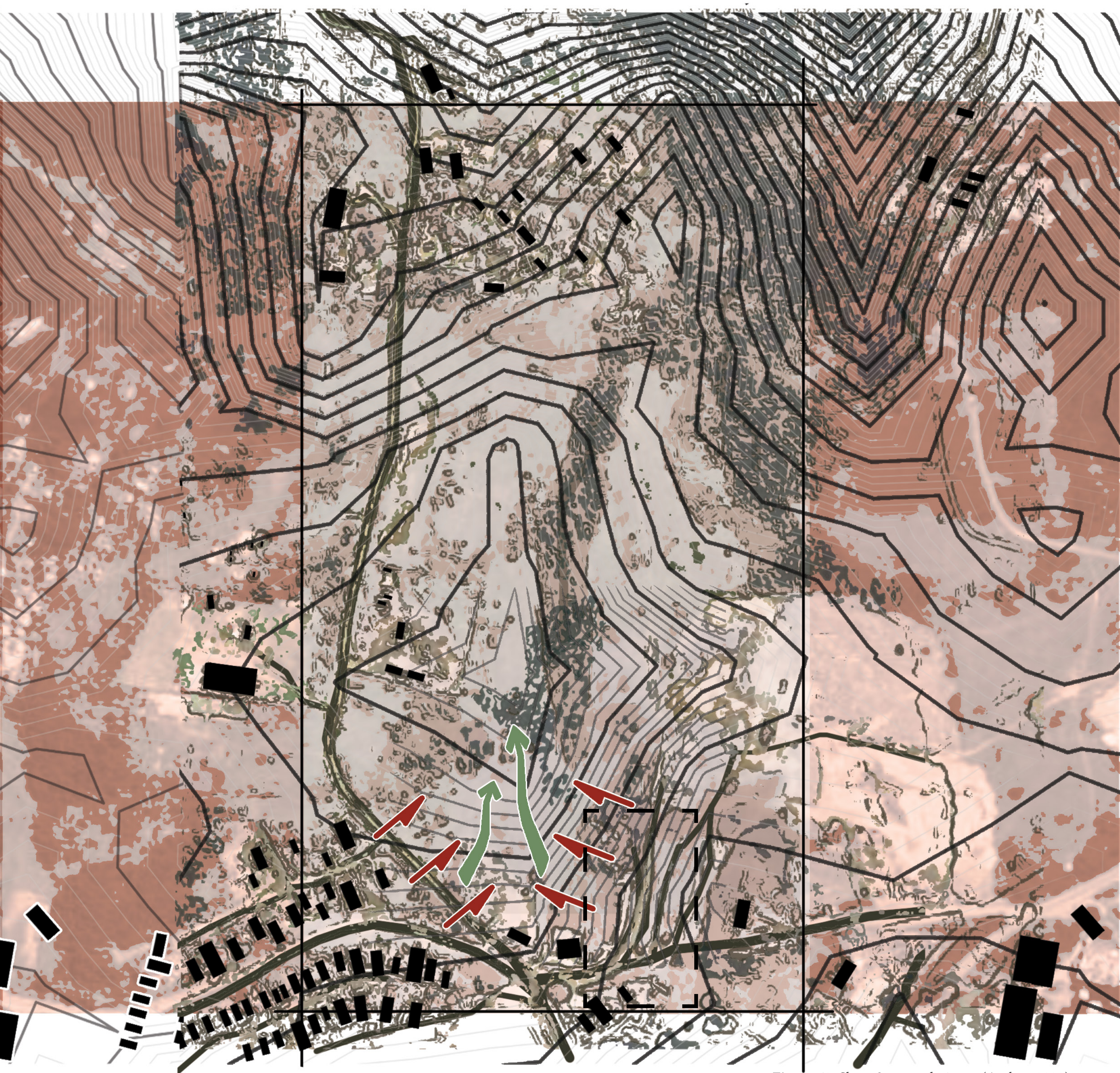


Figure 63: Slope & water drainage (Author, 2023)

4.3.3.4. Slope & water drainage

The terrain slopes from the North to the South of the site, with a total fall of 16m. Due to the nature of the site, most large trees are clustered at the lower end. This natural incline will also facilitate water runoff. While gabion baskets will be built to provide support and assist in terrace drainage, the primary factor in water drainage will be the site's natural gradient and slope.

4.3.3.5. Summer solstice

06:00

Altitude- 0°

Azimuth- 90° E

12:00

Altitude- 59°

Azimuth- 90° N

17:00

Altitude- 0°

Azimuth- 270° W

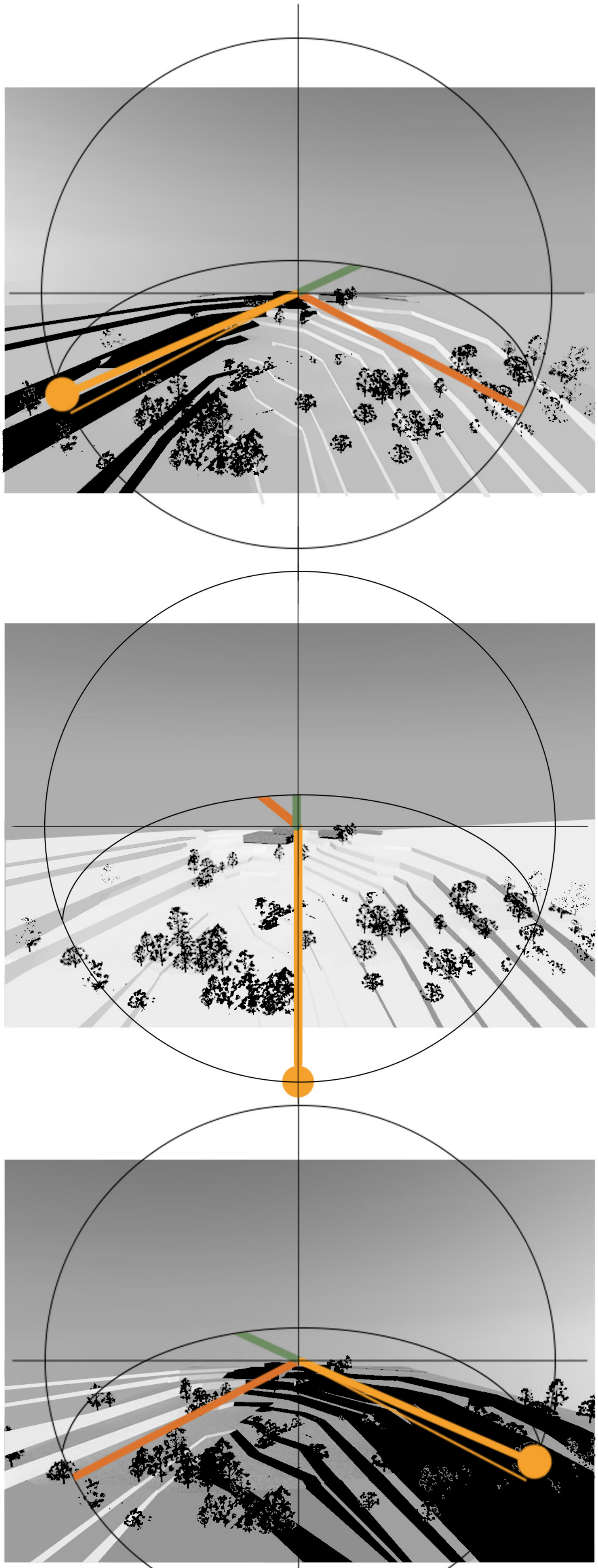
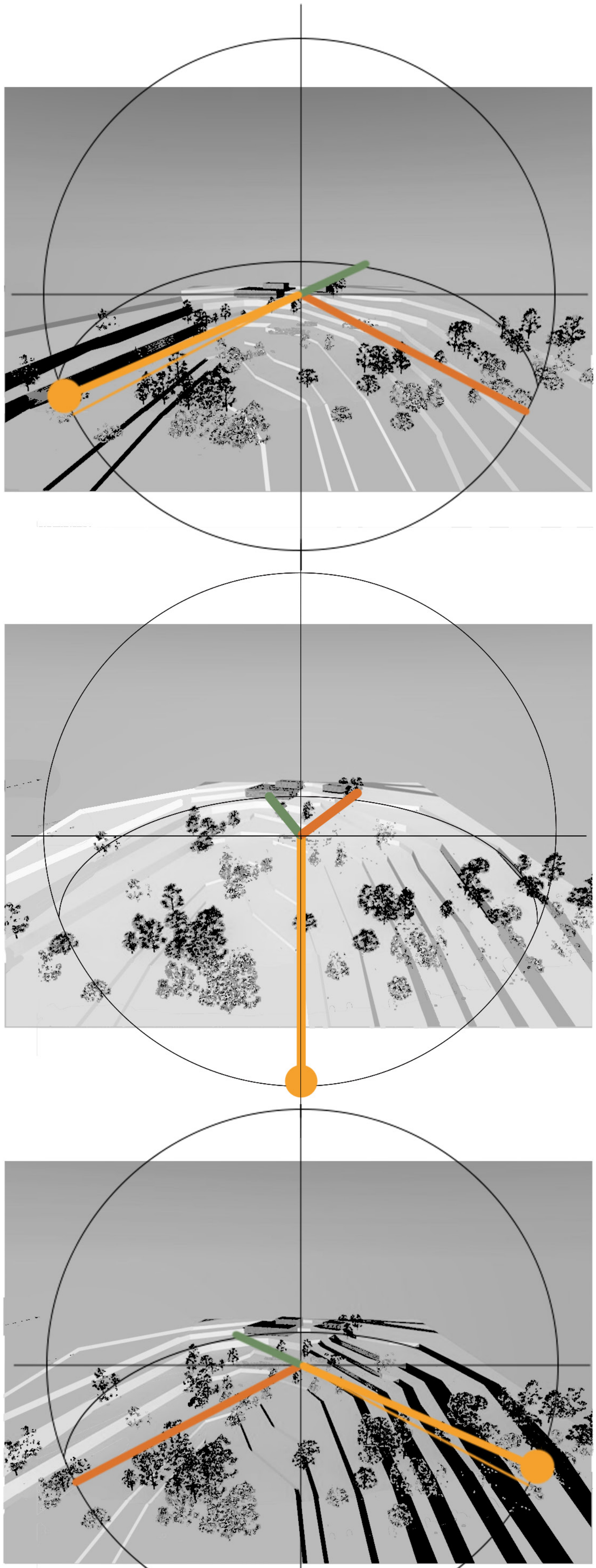


Figure 64: Diagram showing the summer solstice (Author, 2023)

4.3.3.6. Winter solstice



06:00
Altitude- 0°
Azimuth- 67° ENE

12:00
Altitude- 37°
Azimuth- 180° N

17:00
Altitude- 0°
Azimuth- 297° WNW

Figure 65: Diagram showing the winter solstice
(Author, 2023)

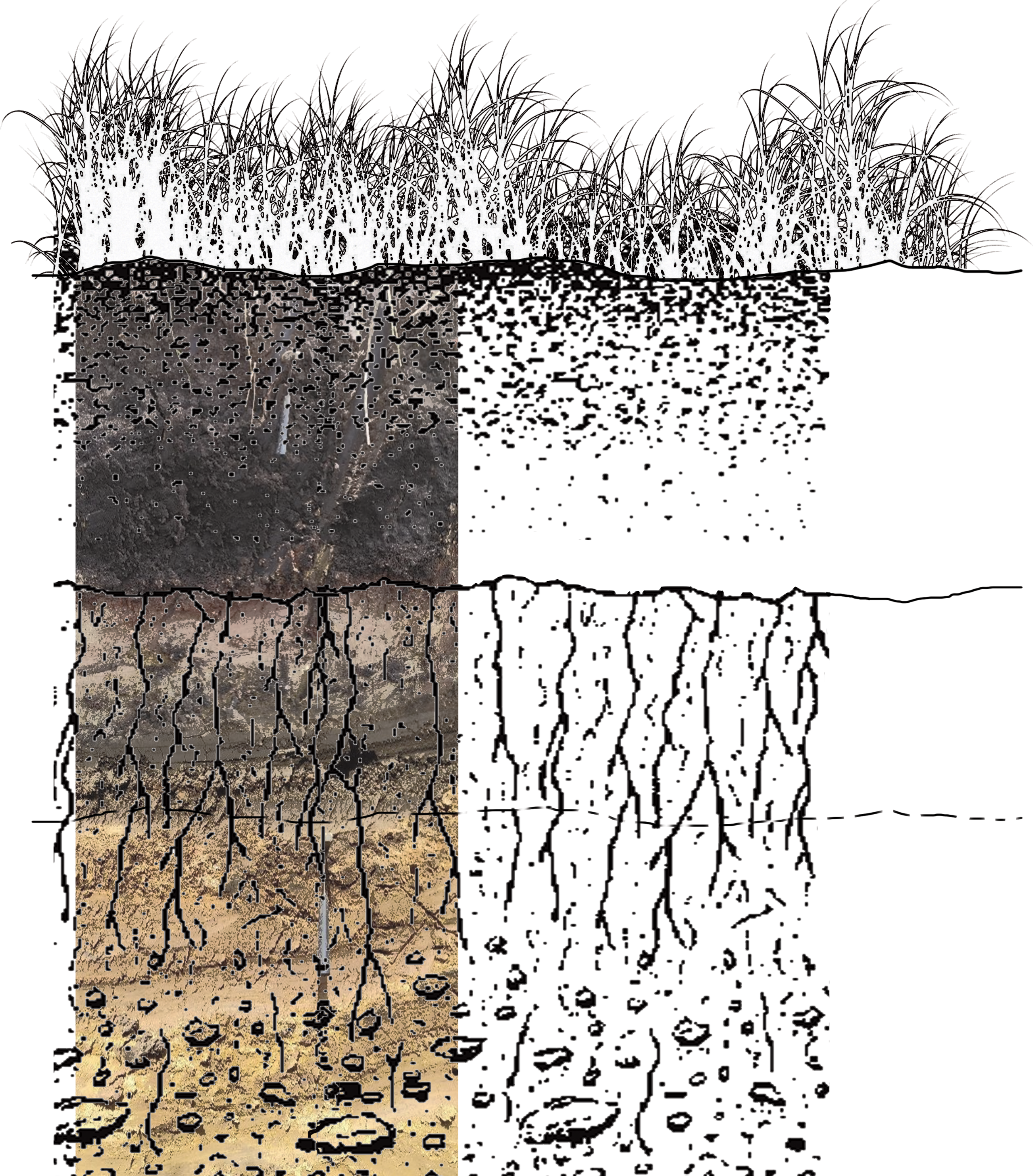


Figure 66: Sectioning through the soil of the site
(Author, 2023)

4.3.3.7. Soil Conditions

The area has been aggressively overgrown by natural vegetation consisting of an array of long grass and trees such as the blue gum tree. The soil conditions as determined by a study done by Geosure, show that the ground is composed of varying layers of enriched topsoil found between 300-1000mm deep. Thereafter, the ground is composed of a transition from orange to yellow clay layers with a series of rocks and scattered boulders throughout.

Adjacent to the proposed site, an excavation of core stones which were found from a depth of 2m, were caused by years of pressurized clay, molding house sized boulders.

By keeping the depth of the topsoil in mind as well as the required plants for spice production, the spice plants that will be grown will be:

- Paprika
- Chilies
- Parsley
- Oregano
- Ginger
- Bay leaves
- Cumin
- Coriander
- Turmeric
- Cinnamon
- Black pepper

An explanation of the process of creating spice from these plants will be discussed further in Chapter 5.2

Chilies
-Suitable to grow in Kwa-Zulu Natal
-Grows best in full sun

Bay leaves
-Suitable to South Africa
-Grows best in direct sun

Parsley
-Suitable to KZN
-Grows best in direct sun

Turmeric
-Suitable to KZN
- Grows best in full sun or in partial shade

Paprika
-Suitable to South Africa
-Grows best in full sun

Cumin
-Suitable to South African climates
-Grows best in full sun

Cinnamon
-Native to Sri Lanka and India
-Grows best in full sun

Black pepper
-Suitable to the humid climate of KZN
-Grows best in full partial sun

Oregano
-Suitable to KZN
-Grows best in full sun or in semi-shade

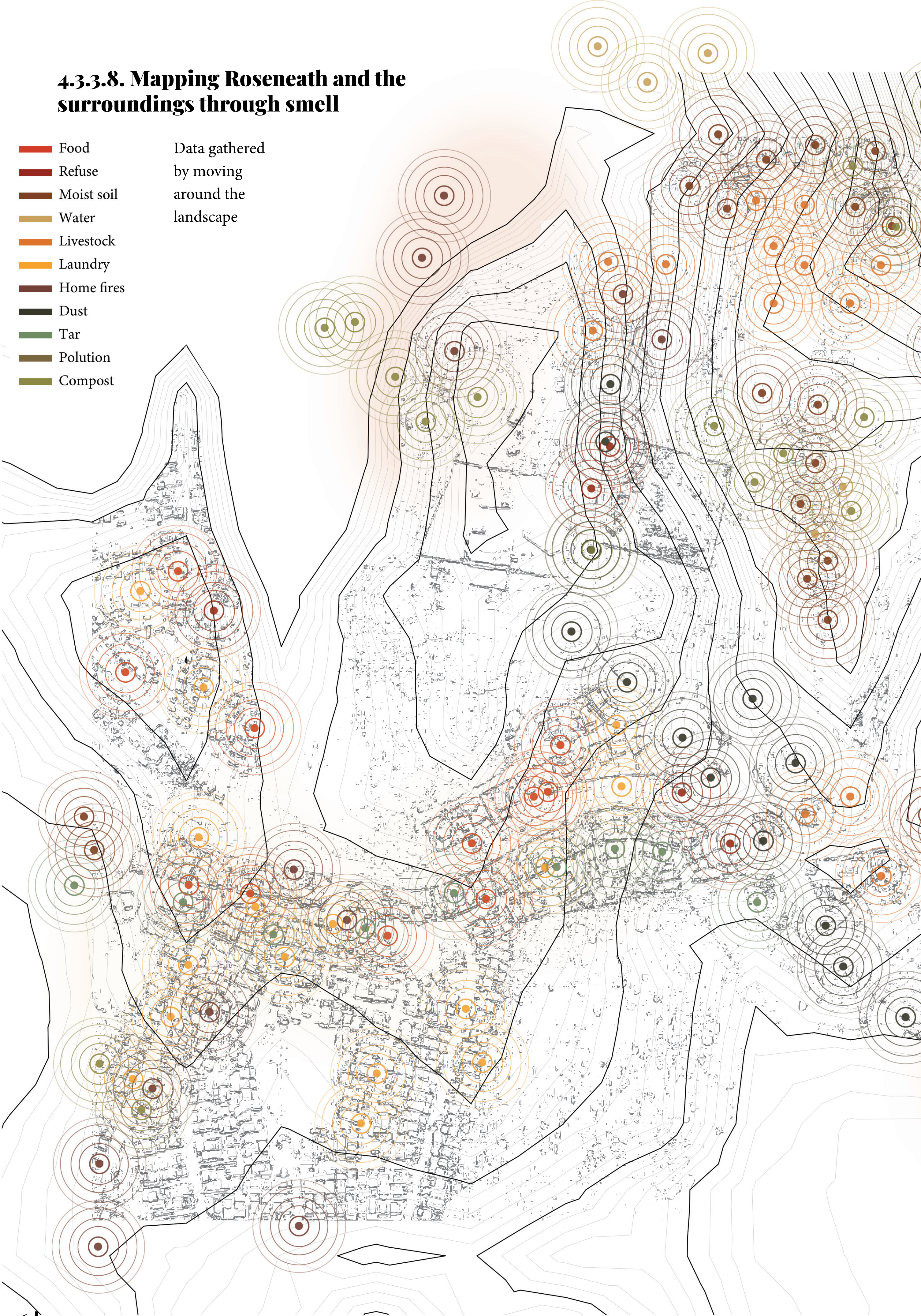
Coriander
-Suitable to South African climates
-Grows best in full sun

Ginger
-Suitable to South African climates
-Grows best in 2-5 hours of direct sun

4.3.3.8. Mapping Roseneath and the surroundings through smell

- Food
- Refuse
- Moist soil
- Water
- Livestock
- Laundry
- Home fires
- Dust
- Tar
- Polution
- Compost

Data gathered by moving around the landscape



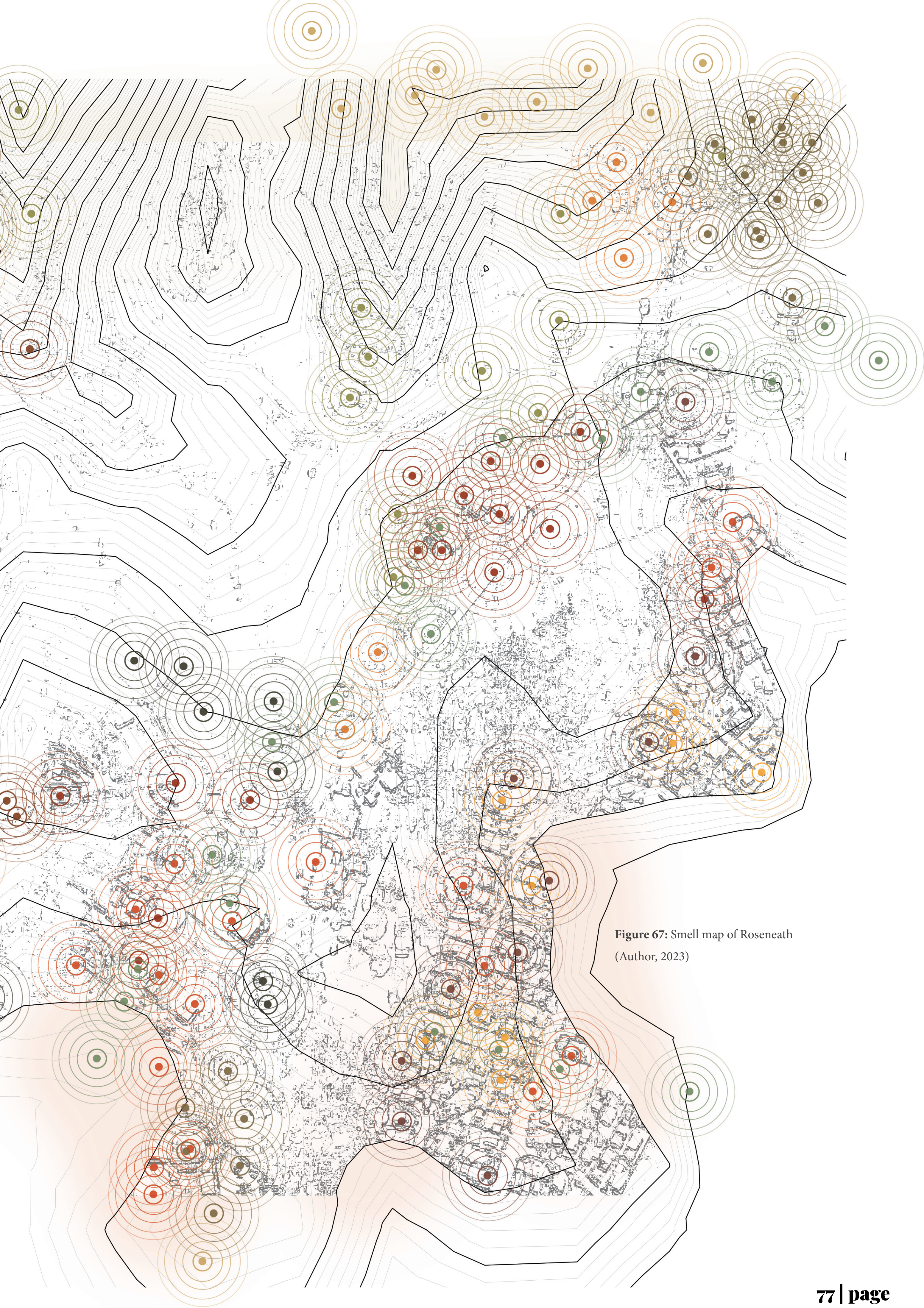


Figure 67: Smell map of Roseneath
(Author, 2023)

Figure 68: Adding layers of technicality to the design

(Author, 2023)

05

DESIGN & TECHNICAL

synthesis

PART

5.1

Design Development

Good design is composed of layers of development. This subsection investigates the dissertation from the beginning stages to completion.

5.2

Applied Design & Techtonics

This subsection explores the manner in which the theory as well as the concepts, were applied to the construction of the dissertation.

FIVE

5.3

Final Design

The plans, sections, and renders of the final design will be exhibited in this subsection.

5.1. Design development

5.1.1.Developing the landscape

The development of the landscape began with an alternative site analysis.

Problem Statement

A peregrination is a long, meandering journey done on foot through a space or place. Looking beyond desire lines, how can a revelation of a peregrination through the site itself be enticed? A submission to the preg of the composition of the site revealed these imbued lines of experience which have been formed because of a qualitative function of relative time thus revealing the voice of the site, uncovering the genius loci, and inspiring a peregrination through spice with relevance and specificity to the site itself.

Poiesisphillia

In order to enter the event of place and practice sympoiesis, the site's genius loci was revealed through pressure. Through the pressing down of clay, the rock, grass, and brick left an imprint, an indentation of the textures. To enhance these indentations and to create alongside the site through a sympoetic venture, these indentations were then transferred to a different medium.

The outcome, which was merely gaining access to the potential poesis of the place, resulted in a plethora of meandering moments that can now be reflected upon the site to aid in this peregrination through spice. The spirit of the place, the genius loci, revealed a hermeneutic disposition of imbued indentations and lines of experience.

Insights

A peregrination through the site was revealed through the letting-be of the site through indentations and imprints. By stepping back and allowing for, firstly, a letting-be of the site, and then an extraction and translation of the preg of the place, the site spoke and was able to reveal its voice.

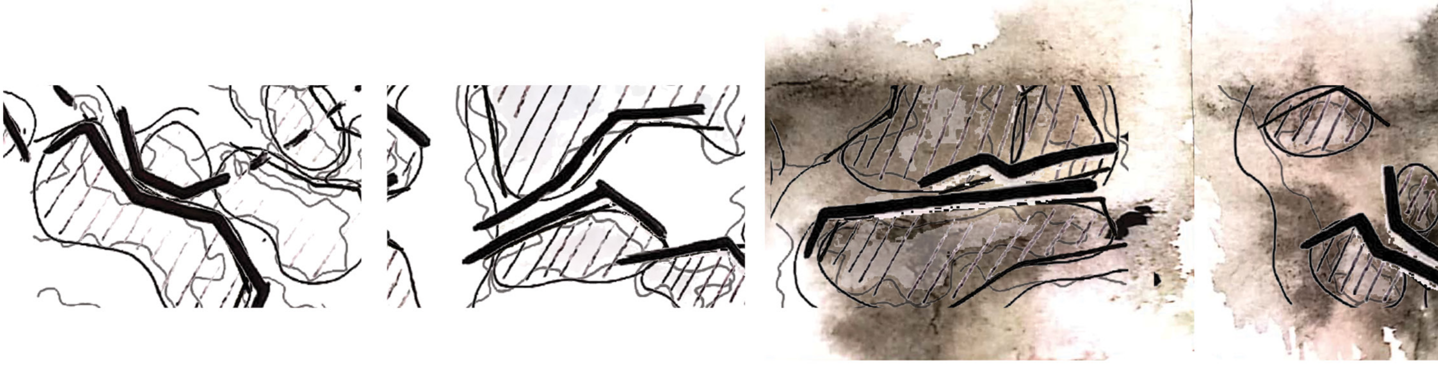


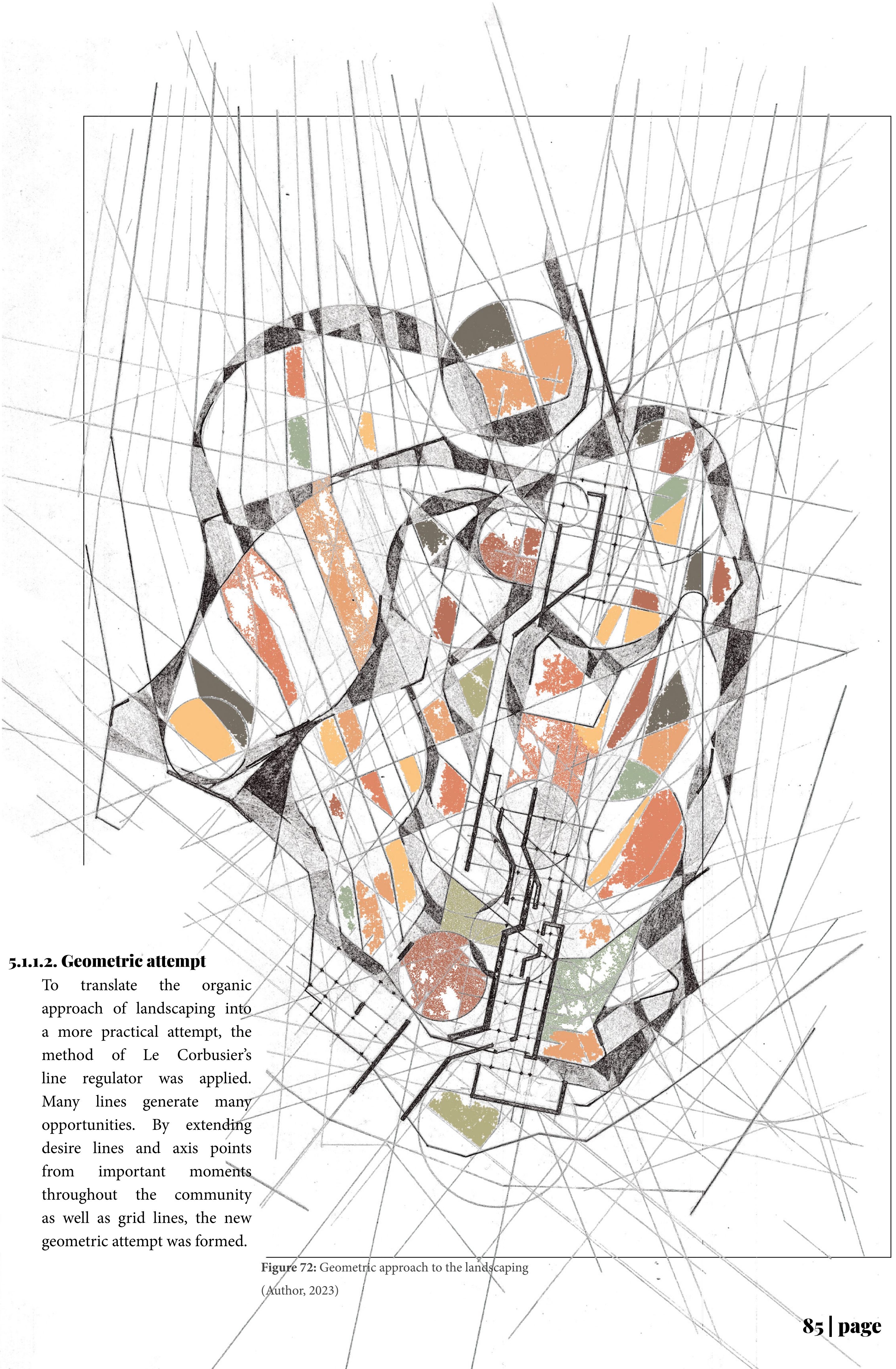
Figure 69: Designing with the site, a sympoetic venture (Author, 2023)

Figure 70: Designing with the site, extracting the preg (Author, 2023)

5.1.1.1. Organic attempt

The first attempt at landscaping began by using the works of Roberto Burle Marx, a Brazilian landscape architect, as precedents and applying them to the context and landscape. Although interesting, the outcome was too organic for the nature of the intended dissertations program as well as the architectural language of the building.

Figure 71: Organic approach to the landscaping (Author, 2023)



5.1.1.2. Geometric attempt

To translate the organic approach of landscaping into a more practical attempt, the method of Le Corbusier's line regulator was applied. Many lines generate many opportunities. By extending desire lines and axis points from important moments throughout the community as well as grid lines, the new geometric attempt was formed.

Figure 72: Geometric approach to the landscaping (Author, 2023)

Figure 73: Final conceptual landscaping (Author, 2023)

5.1.1.3. Final compilation

Combining elements from both the organic and the geometric attempt resulted in the final compilation, which was complimented with guiding and framing walls scattered throughout the landscape.

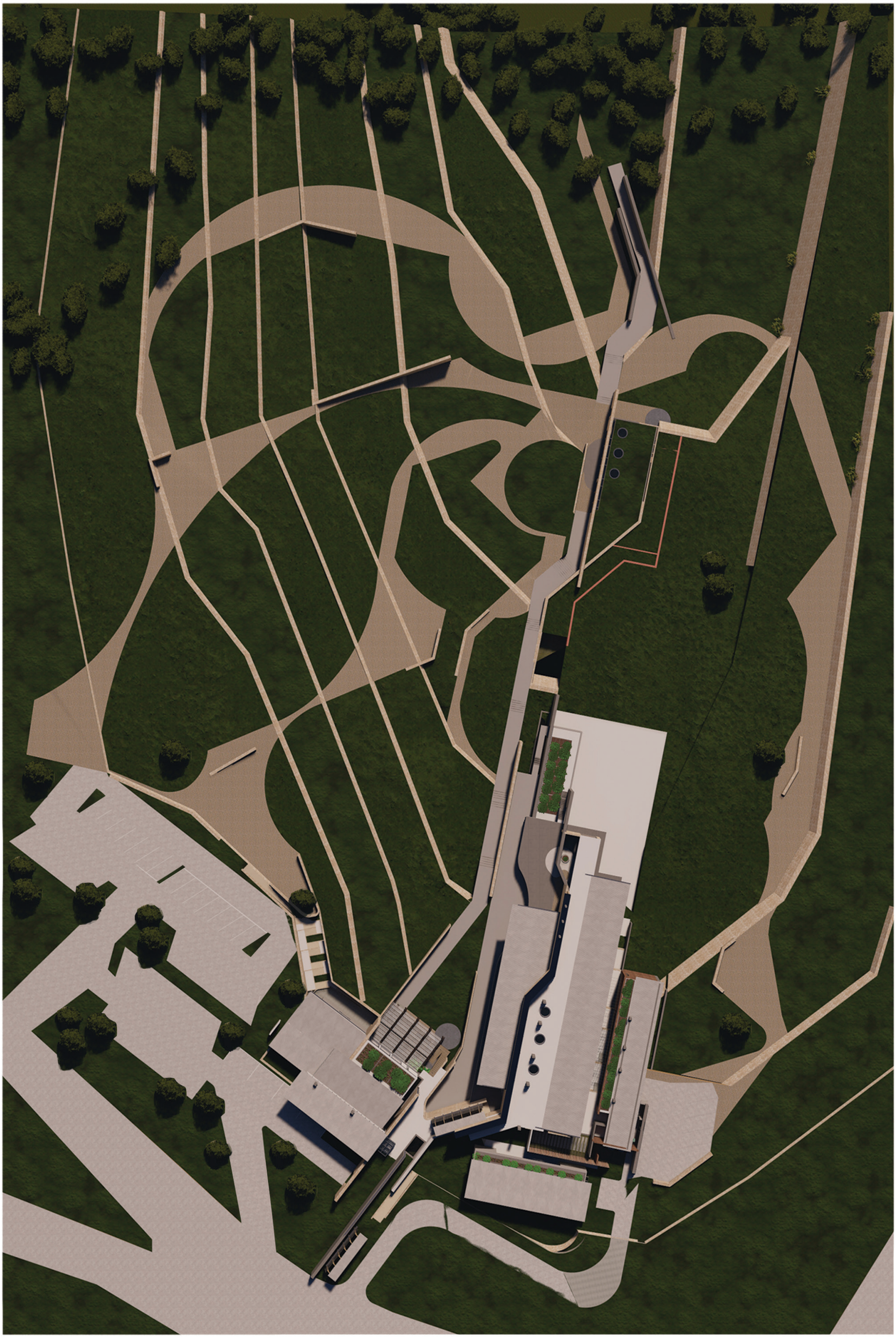


Figure 74: Rendering of the final design embeded into the landscape (Author, 2023)

Figure 75: Geometric forms

Figure 76: Layering functions

Figure 77: Shading & filigree

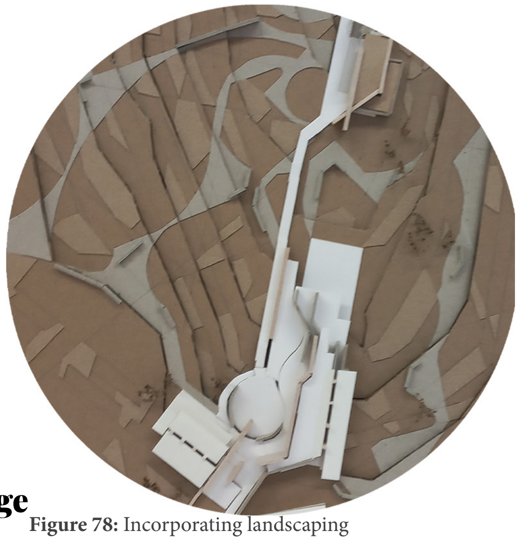


Figure 78: Incorporating landscaping

5.1.2. Developing the architecture

The alternative site analysis played a crucial role in the development of the architecture. By placing the geometric forms that were generated by this investigation and adapting them to suit the fall of the landscape, the orientation of the building to the sun and traffic flow, as well as the needs of the dissertations program, the architecture began to take shape.

The first step of placing the geometric forms on the site, can be seen in Figure 75. The different levels and layers of the architecture then began to form the architectural spaces, which can be seen in Figure 76. To soften the architecture and add a layer of traditional Indian flare, shading devices were explored (Figure 77) and finally, landscaping was introduced to blend the architectural language with the natural surroundings.

Figure 79: Viewing the dissertation from the southern side
(Author, 2023)

5.2. Applied Design & Tectonics

5.2.1. Application of the senses

The essence of the proposal, a peregrination through spice, is an emphasis on the experience of architecture that we have through our senses. The construction touchstone explores this concept and will be explained in this subchapter.

The Ocular Scope- Sight
Guiding walls have been embedded into the design to aid in the visual experience of the user. It is within the art of framing certain views and hiding others that a desire to see more and to be drawn deeper into the sight is created.

Haptic Architecture- Touch
The texture of the architecture affects a person's experience with a building. The haptic sense is an additional layer of intricacy that comes to life through the materials chosen for the walls and flooring finishes. Floor finishes such as polished concrete, wooden places, coarse stone, and loose gravel were used for the experience that the user will have on foot, whilst the contrast between plastered brick and exposed stone will create a difference in the feeling of the space.

The Aural Realm- Hearing
The use of materiality is also a large contributing factor to the aural realm and how spaces sound. The sound of a space is directly linked to how we feel within that space. A space constructed with hard materials such as concrete, will create more of an echo than softer materials such as wood. It is through this knowledge that the aural realm of the proposal was constructed. Constructing tunnels enclosed by concrete and steel screens will cause the footsteps of the user to be amplified, counteracting the silence of nature that will be found on the other side.

Odours of Design- Smell
The aroma of spice acts as a magnet within the design, drawing the user further into the proposal along walkways carved into the spice fields. The architecture merely acts as a channel for the aromas. For example, the wind catcher, a key element in the ventilation of the building, also aids in distributing the aroma. Strategically placed vents and outlets further the aromatic experience between the user and the building, adding an additional layer to the aesthetics of architecture.

Gustatory Edifice- Taste
The taste of the architecture can only come to realization through the aroma. Although the scent of materials traditionally used in construction can produce the illusion of a taste in one's mouth, this will be masked by the aromatic odour of the spices found pouring out of the production space, into the spice boutique.

Figure 80: Aesthetics of Architecture, the construction touchstone (Author, 2023)

5.2.2. Structural precedents

5.2.2.1. The Bowali Visitor Centre by Glenn Murcutt (Murcutt. 2012: pg 254-280)

The Bowali Visitor Centre is a key aspect of the Kakadu National Park, located in Northern Australia. It serves as the threshold for visitors to the park and provides valuable information about the park's natural and cultural heritage. The visitor's center reflects its natural surroundings as well as the indigenous cultural heritage of the Kakadu National Park

The building is designed as a series of overlapping spaces, branching off a veranda pathway. The roofing design of this veranda was the key takeaway from this precedent. Not only does this veranda provide the building with shaded spaces and maximum ventilation, but the layering of the different materials creates a smooth transition from outside to inside.

The large, corrugated iron roof is supported by steel beams that branch out to support shading devices. The smooth transition from inside to outside is created through the contrast between the white ceiling board and timber slats, which are supported by a specifically welded steel bracket.

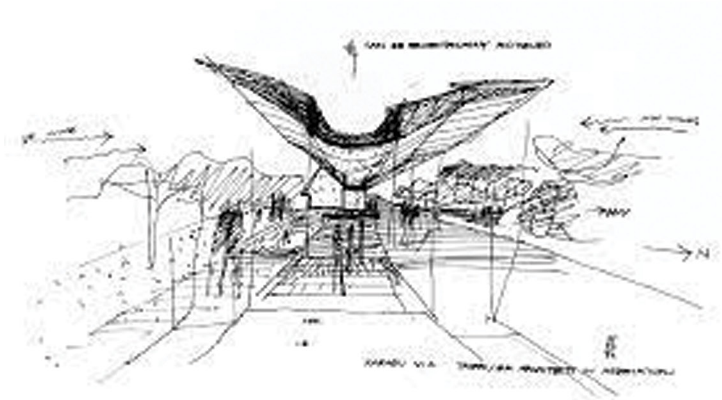


Figure 81: Conceptual sketch of the section (Murcutt. 2012)

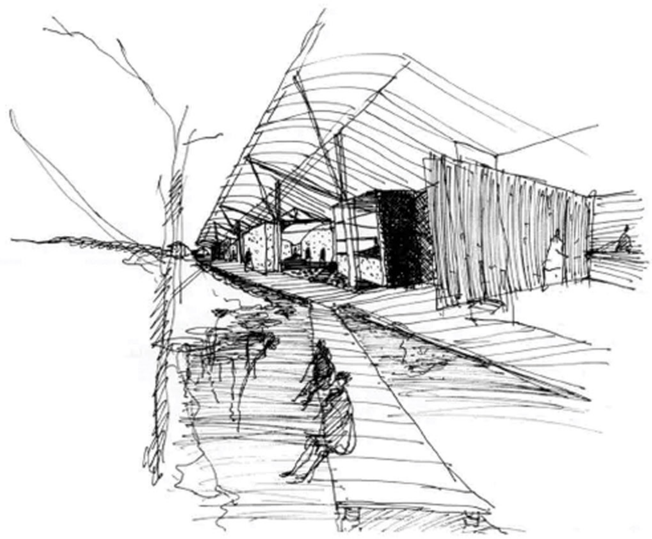
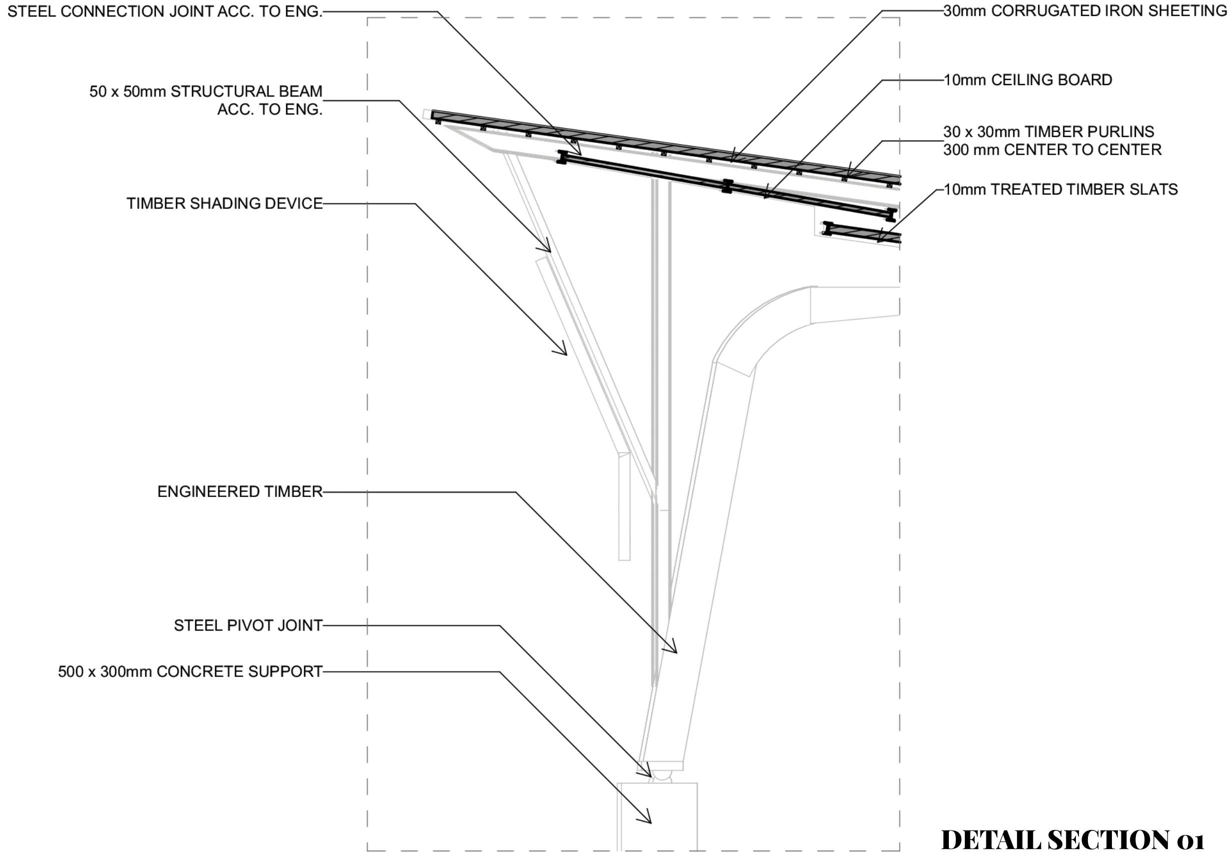


Figure 82: Sketching the roofing design (Murcutt. 2012)

Figure 83: The Bowali Visitors Centre (Murcutt. 2012)

5.2.2.2. Application- Tectonic investigation

The roofing design of The Bowali Visitor Centre was applied to the design of two main spaces. The first was the walkway guiding the user into the spice boutique, framing views of the landscape. The second was within the spice boutique. The aim in both instances was to provide ample ventilation as well as to draw the landscape into the building. A detailing of the roofing structure covering the exterior walk way can be seen in Figure 84, Detail 01.



DETAIL SECTION 01
SCALE 1:50

Figure 84: Section through the roofing design (Author, 2023)

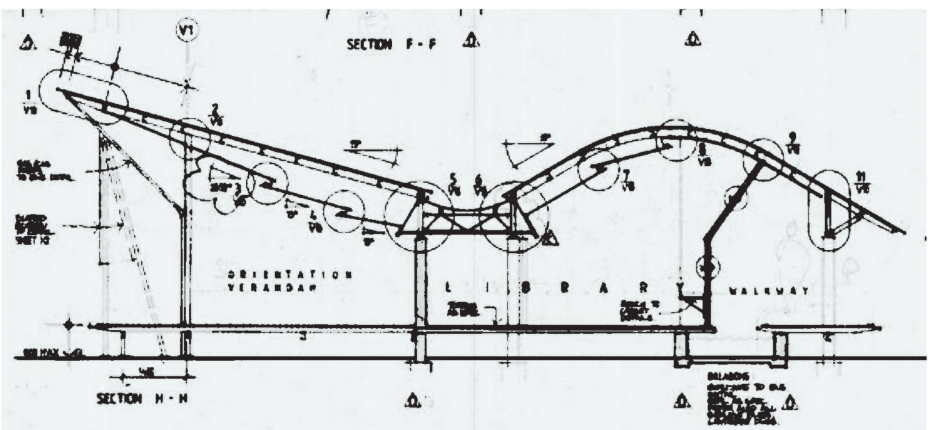


Figure 85: The Bowali Visitors Centre, roofing construction (Murcutt. 2012)

5.2.2.3. Shading Devices and Indian Architecture

Modern Indian architecture has evolved beyond decorative filigree and is now designed for the experience of the user. As discussed in Chapter 3.4, Charles Correa emphasizes that architecture is art. It is a structure that is usable by human beings. Indian architecture has, therefore, now been simplified to an emphasis on geometry, balance, hierarchy, circulation, and light. (The_Prototype, 2020: online)

To soften the threshold between built and unbuilt and to celebrate the harmony between these spaces, shading devices, skylights, and brisole walls (or Jaali, an Indian term for "perforated block") were incorporated into the dissertation.

Jawahar Kala Kendra by Charles Correa, as well as the M. A. C. Community Center by Made in Earth were taken as precedents for the incorporation, use, and materiality of shading systems, skylights, and Jaali. (See Figure 86-87)

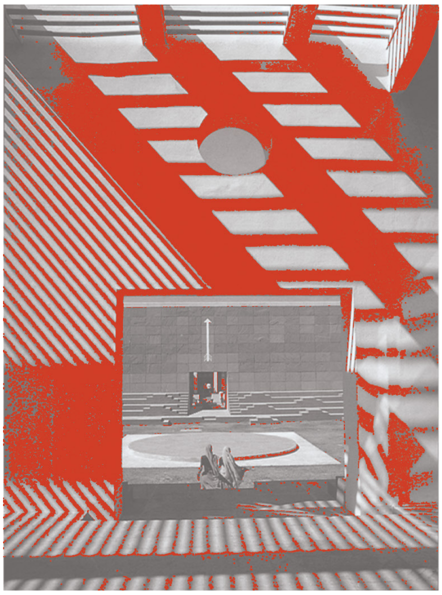


Figure 86: Jawahar Kala Kendra, the harmony between built & unbuilt (The_Prototype, 2020: online) Adapted by Author

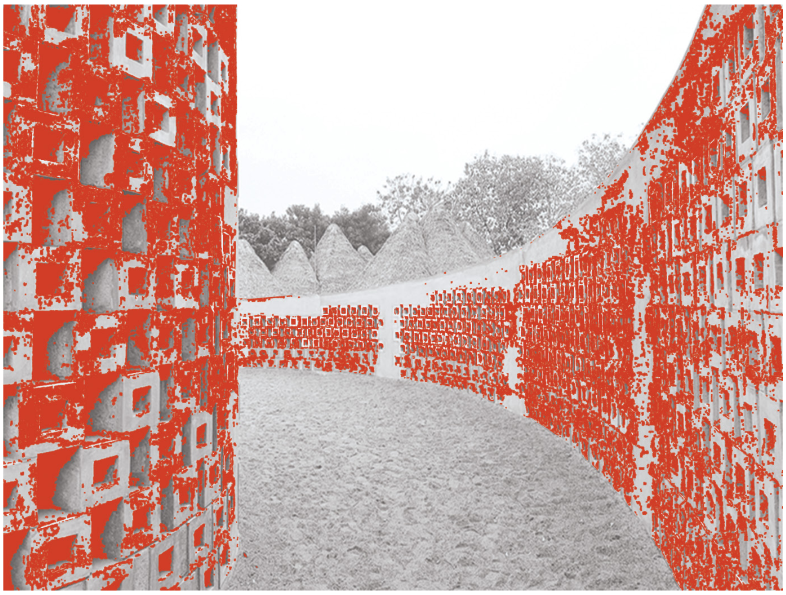


Figure 87: M. A. C. Community Center, blending the threshold (Made in Earth, 2020: online) Adapted by Author

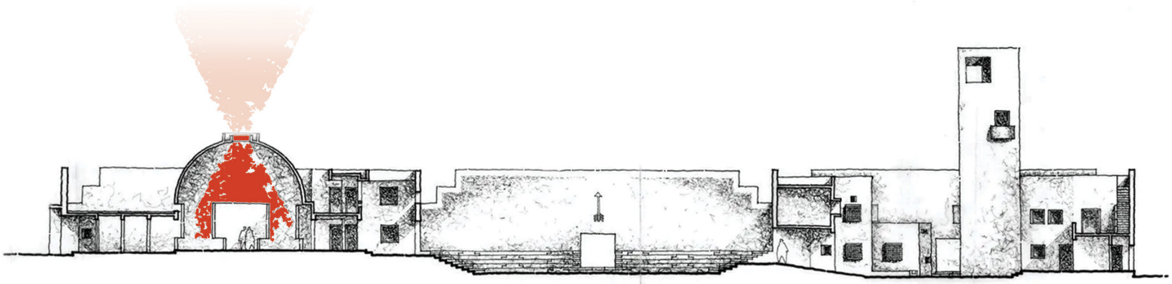


Figure 88: Jawahar Kala Kendra skylights (The_Prototype, 2020: online) Adapted by Author

5.2.2.4. Application- Tectonic investigation

The incorporation of the shading devices was used mainly above the exterior restaurant seating. The use of tapestry provides a layer of coverage whilst still opening the space to the elements and employing a characteristic of Indian architecture. (See Figure 89)

The use of skylights to dissolve the barrier between inside and outside can be seen in the spice boutique as well as in the tea lounge. The bright culture of Indian spices has been brought to life by placing these skylights above the spice tables. As the midday sun pours through these lights, the spices found below them will be illuminated, adding another layer to the visual journey of the user. In the tea lounge, the skylights have been places to make the space feel bigger and to create a connection between the sky and earth. (See Figure 90)

The brisole walls (or Jaali) throughout the design were used as privacy screens between the public and semi-public spaces. They can be seen on the viewing deck into the spice production area and along the air-drying passageway between the spice boutique and ablutions. (See Figure 91)

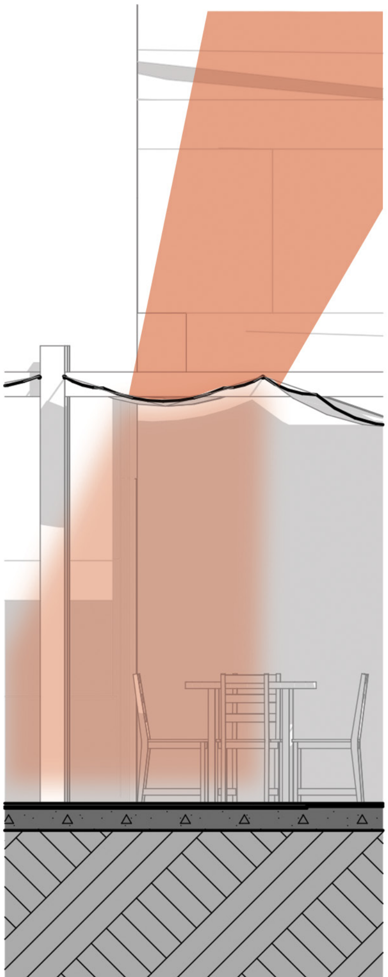


Figure 89: Tapestry shading device (Author, 2023)

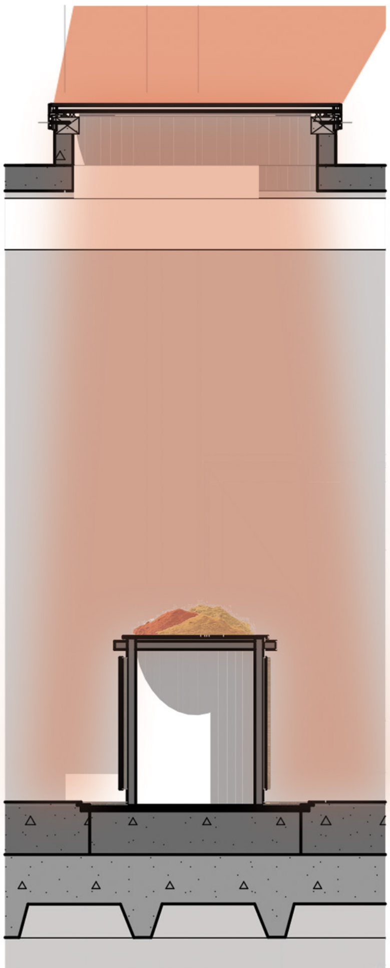


Figure 90: Skylight detailing (Author, 2023)

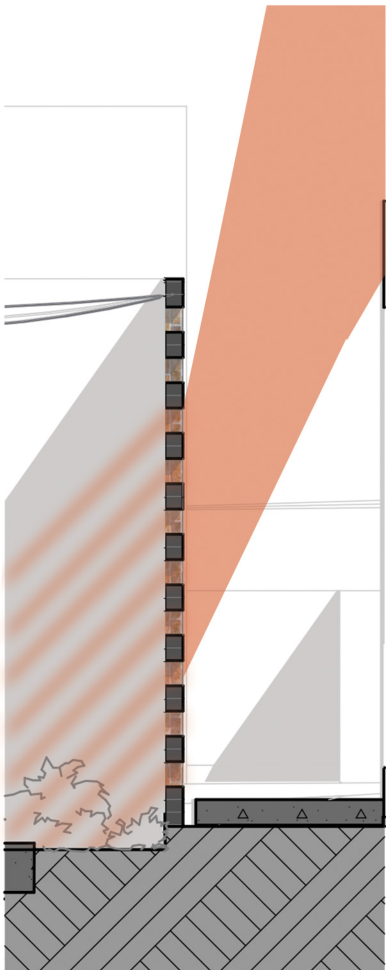


Figure 91: Brisole privacy screen (Author, 2023)

5.2.3. Climatic design principles

5.2.3.1. Climatic Constraints

The town of Roseneath is within the climatic zone 5 with sub-tropical coastal climatic conditions.

The main climatic characteristics and constraints of Roseneath are:

- High humidity (79.1% average) with a degree of "dry season"
- High temperatures all year round (16-25° C in winter & 23-33° in summer)
- Minimum seasonal temperature range
- Lowest diurnal temperature range

To appropriately design for this climatic zone would require;

- Employing lightweight structures
- Designing spaces that encourage maximum cross-ventilation
- Incorporating cooling elements, such as wind catchers and ceiling fans
- Situating the building for exposure to breeze and shade all year round
- Incorporating reflective insulation and vapour barriers
- The use of light colours in the roofing and wall materials
- Elevating the building to maximize airflow
- Considering high or raked ceilings
- Providing screeded and shaded outdoor spaces

(Muller, 2018: 106)

5.2.3.2. Ventilation systems

The main source of ventilation which will not only cool the space down but will circulate the aroma of spices, drawing it from the spice production space through the spice boutique and out of the building is a system commonly used in traditional Indian architecture, known as a wind catcher. (See Figure 92, Detail 02)

A wind catcher is a chimney-like structure that catches and directs cool air into the building. The orientation of the wind catcher is crucial to ensure maximum passive cooling. The South Coast of Kwa-Zulu Natal has two prevailing wind directions- North Easter, and South Wester. The North Easter wind usually brings sunny, hot weather and the South Wester brings cooler, overcast weather with strong winds (inMotion, 2023: online). The wind catcher running through the spice production and boutique spaces is situated along a North-South axis with the Eastern wall slightly lower than the Western wall (see Figure 92), to provide the building optimal ventilation throughout the year.

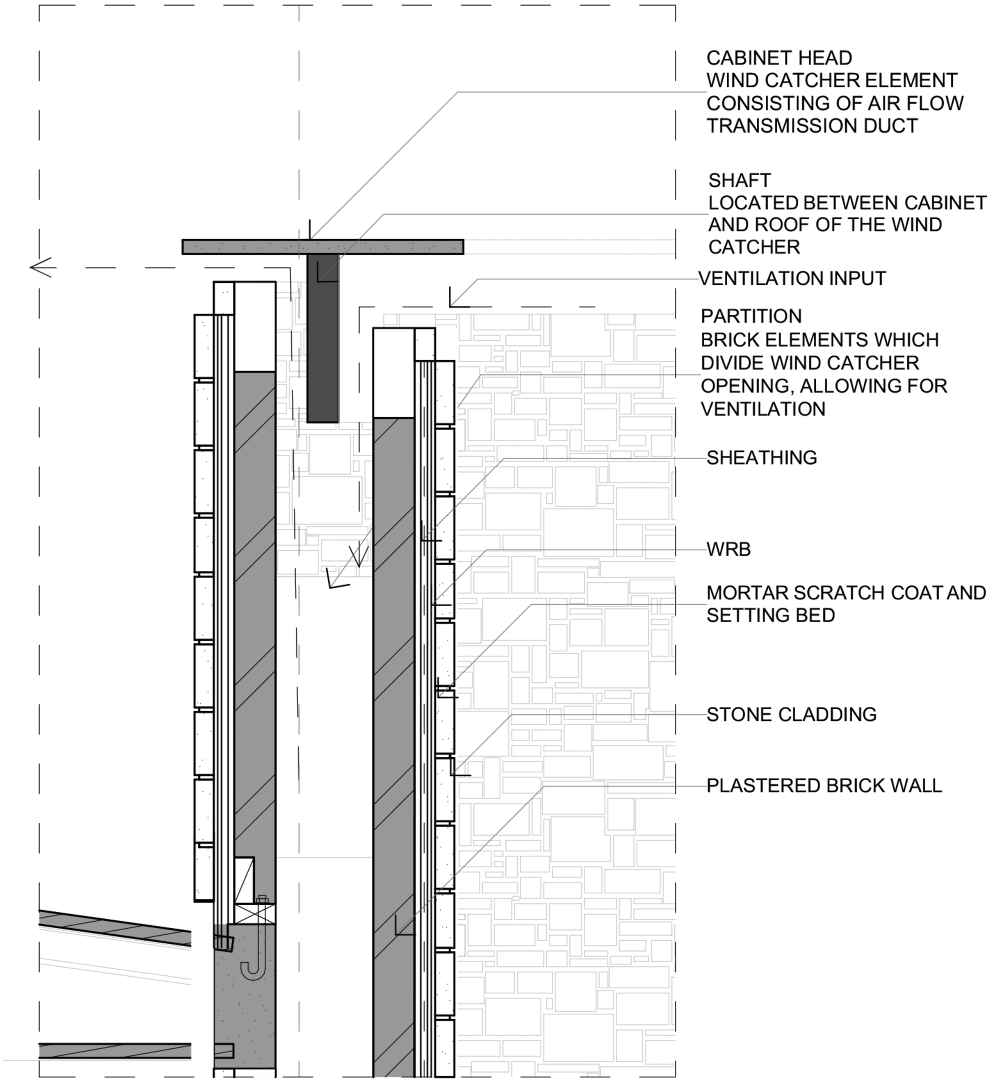
5.2.3.3. Appropriate materiality

The top five materials that are appropriate for the climatic constraints as well as the context and will be used in the structural component of the design are; (see Figure 93)

- Cement (substructure)
- Stone (cladding)
- Steel (detailed joints, roofing design & reinforcements)
- Bricks (structural walls)
- Timber (roofing structure)

The above-mentioned materials will be locally sourced and are the most well-known in KZN construction (KZN Department of Transport, 2007: online)

One of the key elements embedding the building into the context and landscape is the use of stone, which will be transported from a neighbouring dump site and quarry and applied to brick walls through a cladding system (see Figure 92).



DETAIL SECTION 02
SCALE 1:20

Figure 92: Section through the wind catcher & stone cladding (Author, 2023)

Figure 93: Materiality used through the design (KZN Department of Transport, 2007) Adapted by Author

Concrete
Concrete performs well in KZN due to its durability and resistance to the humid climate.

Stone
Stone performs favourably in KZN due to its natural resistance to humidity and high temperatures.

Steel
Steel performs well in KZN, as it is resistant to corrosion and can withstand the occasional heavy rainfall.

Brick
Brick performs effectively in KZN, providing good insulation and durability in high temperatures and rainfall.

Timber
Timber can perform well in KZN when adequately treated and maintained to resist the region's humidity.

5.2.4. Structural systems & design

3.2.4.1. Applying the Senses to Section

Rich architecture is the result of an amalgamation of theoretical, conceptual, and functional aspects within a design. An amalgamation of the concepts, namely, A Proustian Memory, Diachronic Thereness, and The Duality of Perception, as well as the theoretical underpinnings of the dissertation, namely, the Architectural Promenade and the Aesthetics of Architecture, resulted in an embodied narration of the culture in traditional spice making.

As stated in Chapter 5.2.1, the "Application of the senses," the aesthetics of architecture come to life through the construction of the architecture. The strategic placement of walls, as well as the materials chosen to construct these walls, concretizes a person's optic scape and haptic interaction with the architecture. The scientific composition of these materials is what creates the aural realm of the dissertation and the functionality of the proposal (a space for spice production) resulting in the incorporation of the final two senses, the odours of design and the gustatory edifice.

Peregrinating through the architectural promenade is not only done by the user but also by the spice itself. The journey of the spice as a seed to a plant, from a plant to a spice, and from a spice to an aroma which draws users into the building is a peregrination in itself.

Figures 94 & 95 illustrate the application of the conceptual and theoretical approaches.

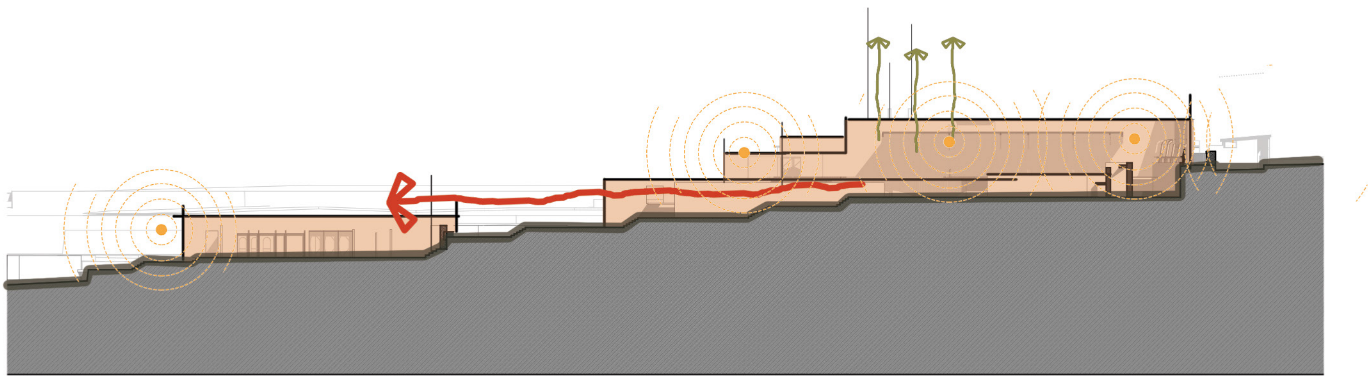
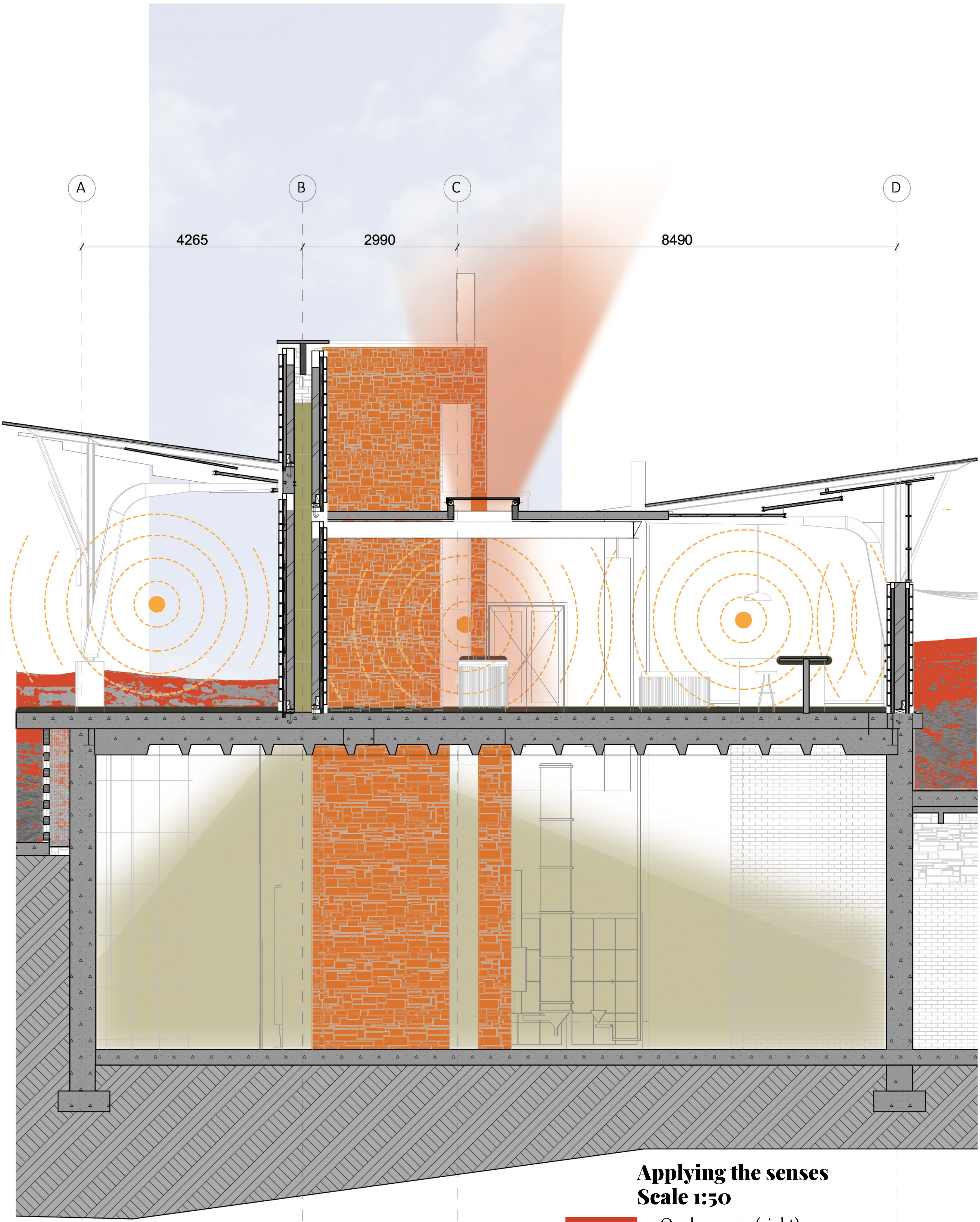


Figure 94: Highlighting conceptual and theoretical approaches (Author, 2023)



Applying the senses
Scale 1:50

Ocular scope (sight)
Haptic architecture (touch)
The aural realm (sound)
The odours of design (smell)
The gustatory edifice (taste)

Figure 95: Detailing the construction of theory (Author, 2023)

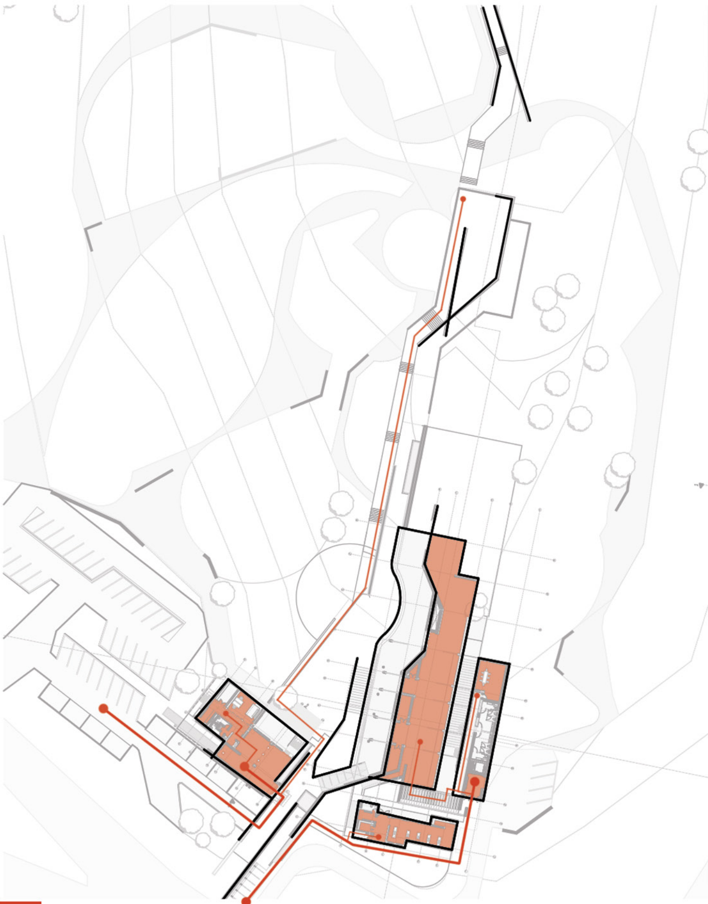


Figure 96: Peregrination of the Worker (Author, 2023)

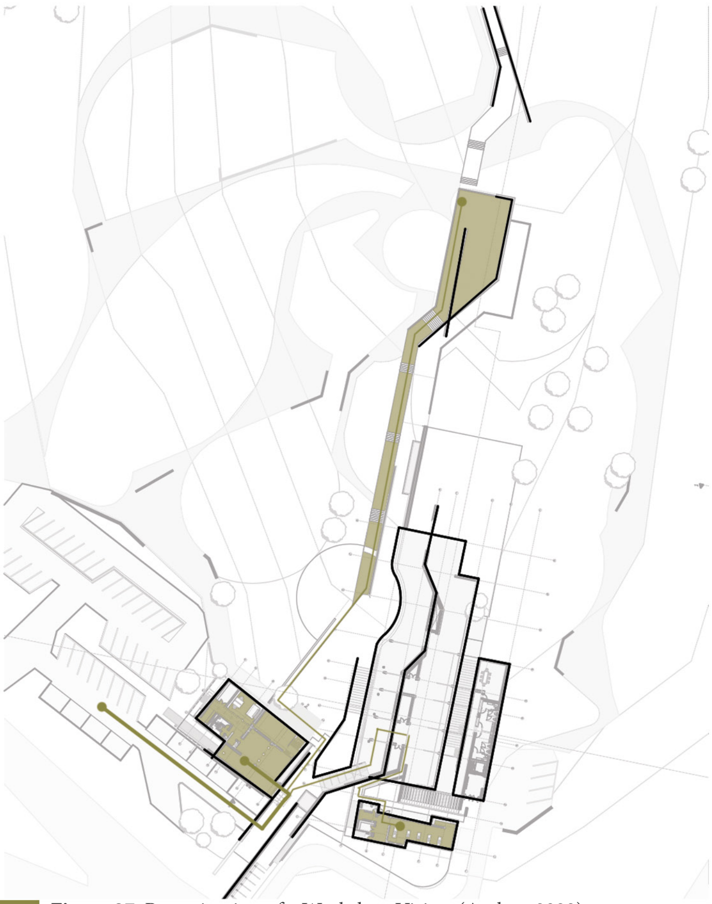


Figure 97: Peregrination of a Workshop Visitor (Author, 2023)

3.2.4.2. Peregrinating through the plan

The Worker

Many of the workers on the spice farm will make use of public transport such as taxis to commute to and from work. They will firstly be dropped at the bus stop found at the entrance to the site. From there they will travel on foot behind the workshop to a staff entrance found on the south-eastern corner of the site. This area can only be accessed with the use of a staff card. Entering the space, the worker will need to clock in before heading to their respective stations. An elevator has been provided for staff going to the production space. Parking has been provided for the staff with cars,. They will alternatively circulate from the parking lot to the art gallery.

A Workshop Visitor

A workshop visitor arriving on foot or via public transport will make use of the spices farm's main entrance and will circulate to the art gallery where a workshop instructor will be waiting to provide a tour. The tour begins at the art gallery with a brief introduction to the community as well as the history behind Spice. Thereafter, the group will circulate through the spice boutique, down the airdrying spice terraces, past the production space, and through the spice fields. The tour will then circulate back to the spice workshop or alternatively to the tea lounge and workshop where the workshop instructor will guide the visitor through a specified recipe or cooking technique.

The Boutique & Restaurant Consumer

The boutique user will predominantly make use of the parking lot or alternatively enter on foot through the main entrance. Viewing points have been strategically placed to draw the user further into the site to experience the spice rather than merely purchase it. Upon entering, the strategic placement of the art gallery draws the user in, expanding on their experience with the site. Within the art gallery, the user may meander down to the restaurant or exit the gallery to continue their journey to the spice boutique. The senses play a large role in the journey to the spice boutique. It is firstly the aroma that will draw them in and then the sound of their own footsteps, echoing through a concrete and steel tunnel which will in turn amplify the concept of the silence of the landscape. Exiting this tunnel, the user will be pulled in by their own design to view more, with entrances to the spice boutique branching off this peregrinating route. Once the user has bought their spices, they have the choice to either circulate out of the spice boutique, back to their car, or meander down a series of airdrying spice terraces which open themselves onto the spice fields. The journey back will be a framing of views of a different sort, now focusing on the architecture and machine-like production of spice.

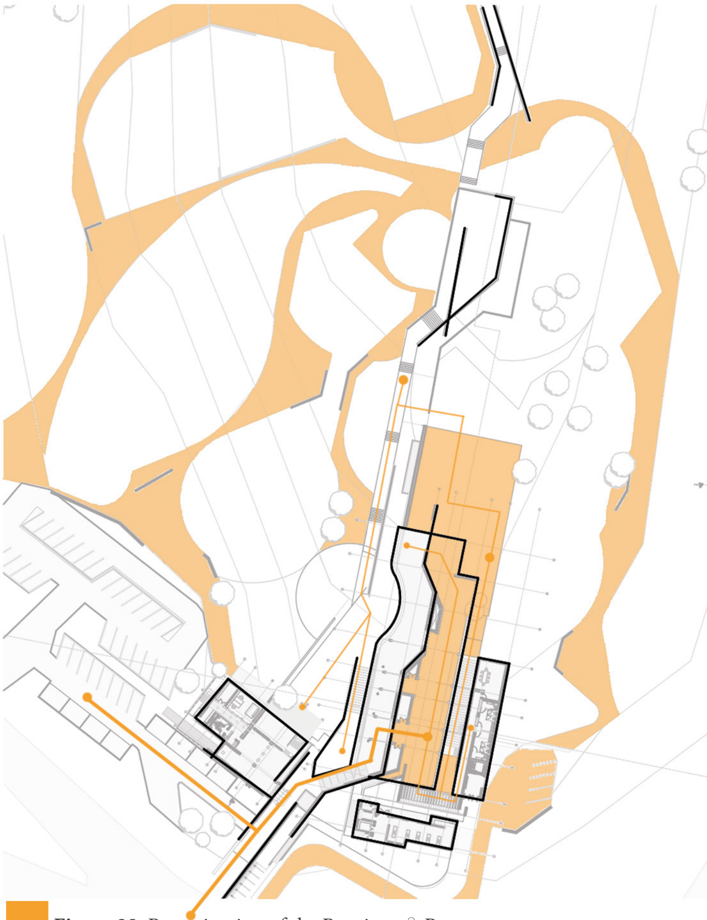


Figure 98: Peregrination of the Boutique & Restaurant

Deliveries

Delivery drivers will enter the spice farm through a specified entrance and will drive to the delivery drop-off zone. Products and produce will circulate from this point either down the elevator or through the spice farm via trolleys. Deliveries to the art gallery and museum, and restaurant will enter through the main entrance of the spice farm, using the front entrance of the gallery or the back of house of the restaurant.

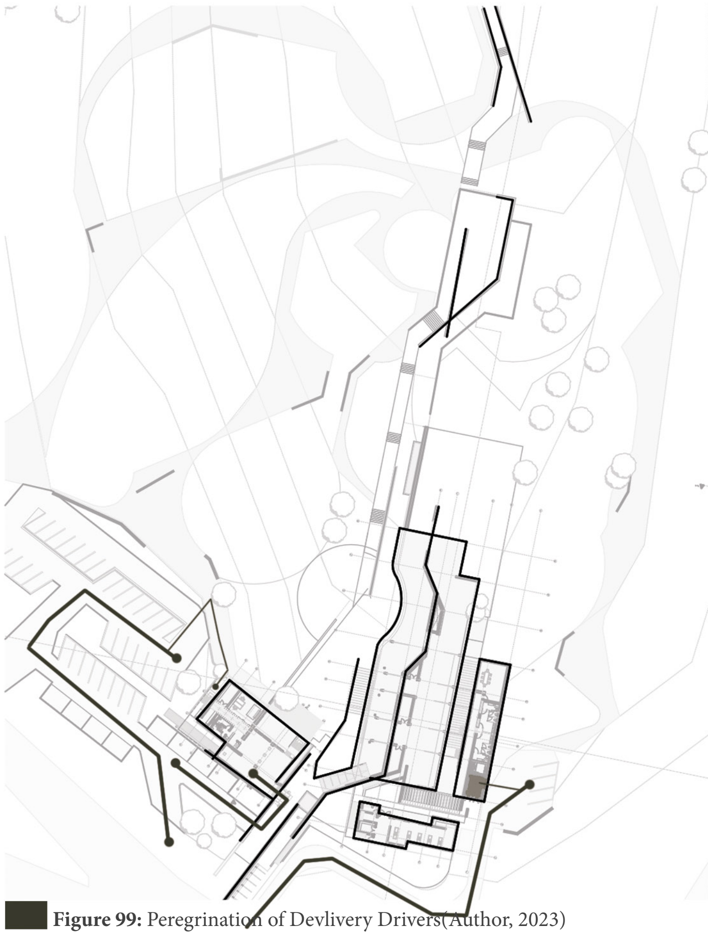
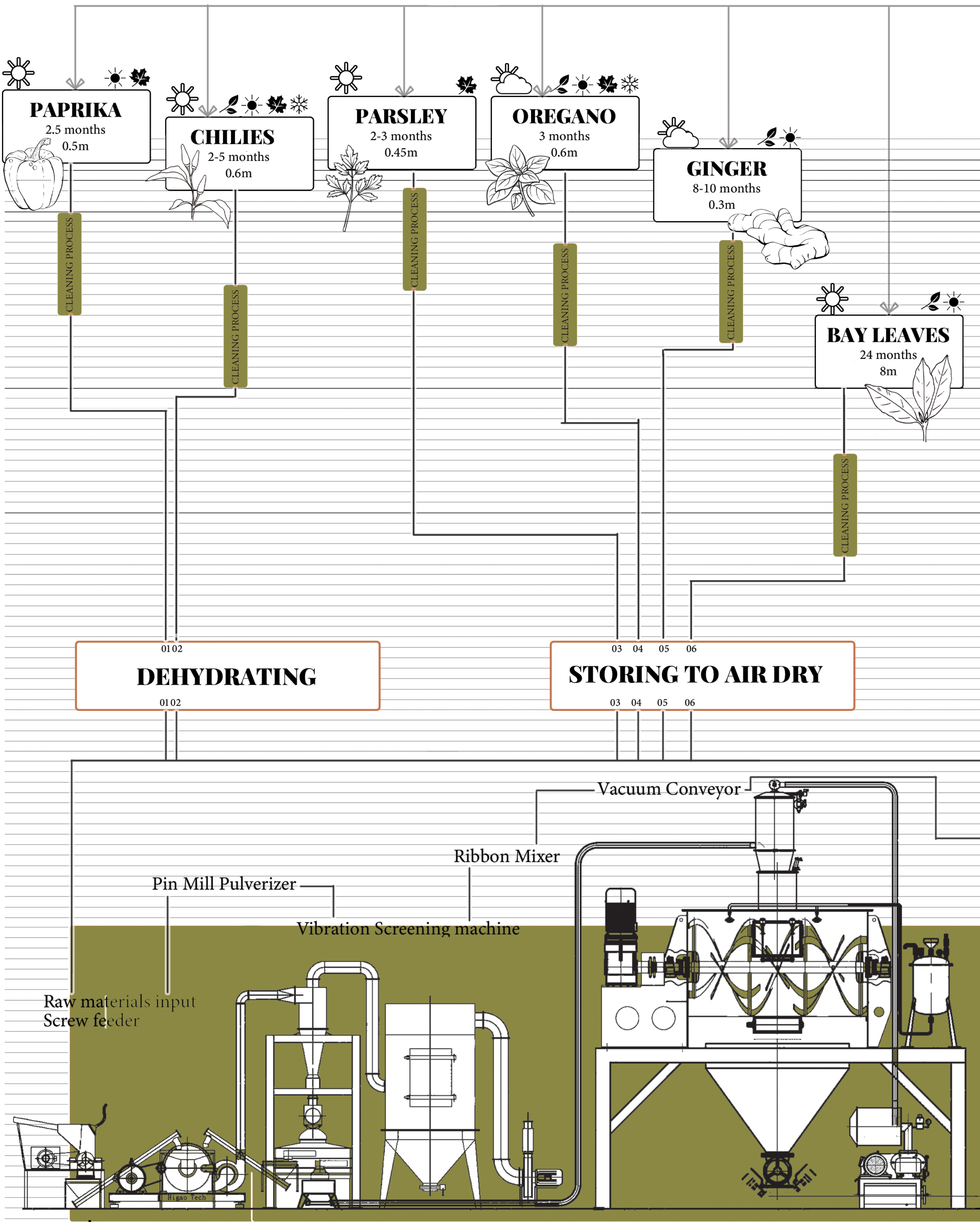


Figure 99: Peregrination of Devlivery Drivers(Author, 2023)

5.2.5. Spice Production process



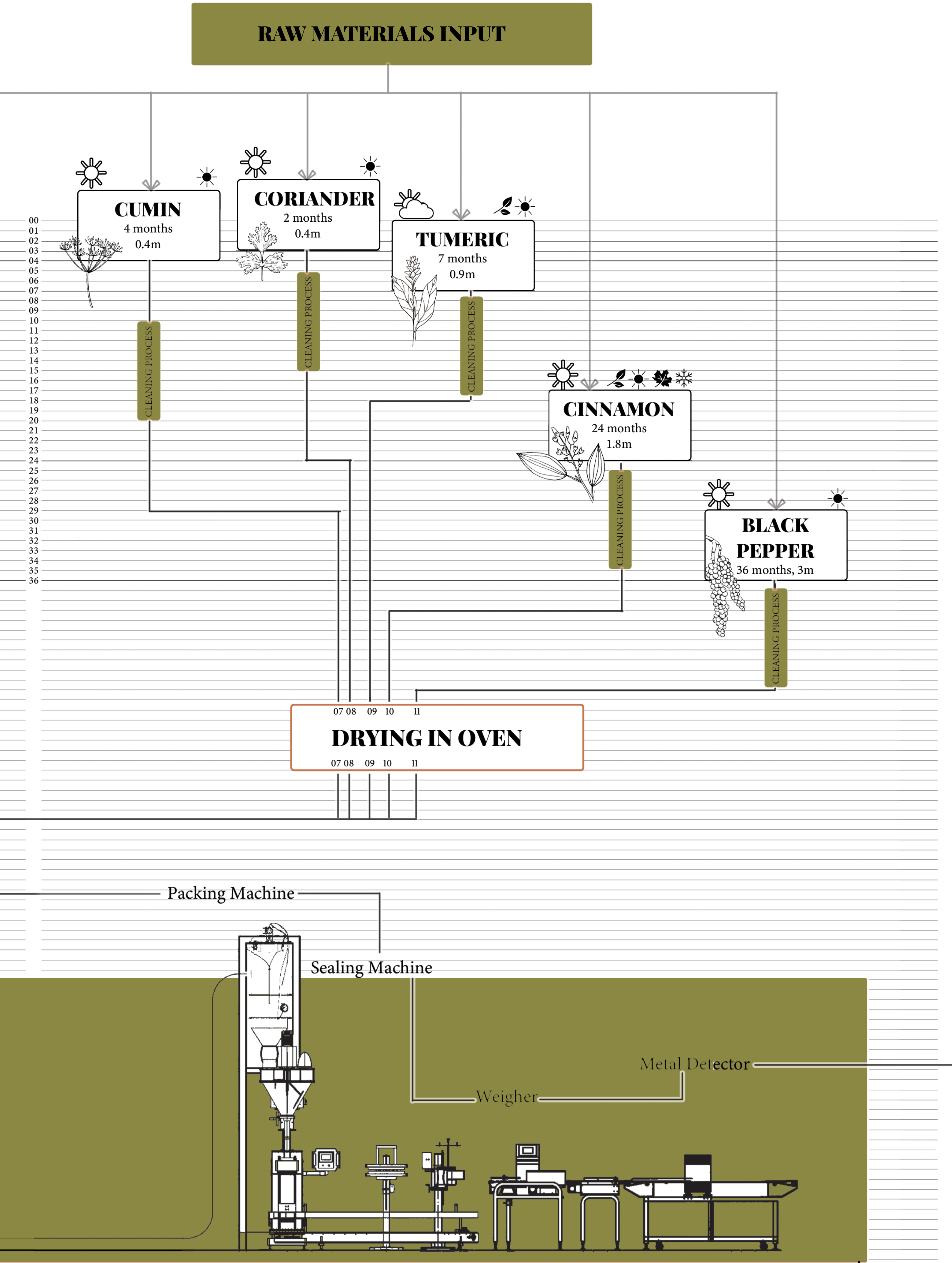


Figure 100: Spice Production process(Author, 2023)

Raw materials input. Screw feeder-

The screw feeders provide a steady and controlled flow of the bulk materials moving toward the Pin Mill Pulveriser. This allows for a more accurate amount and control over the initial stages of the production process.

Pin Mill Pulveriser-

The Pin Mill Pulveriser is a grinding and crushing element, suitable to grind materials with a range of textures from that of crystals to that of a more brittle nature. The output fineness can be changed by replacing filtering screens within the system or by adjusting the rotor speed.

Vibration Screening Machine-

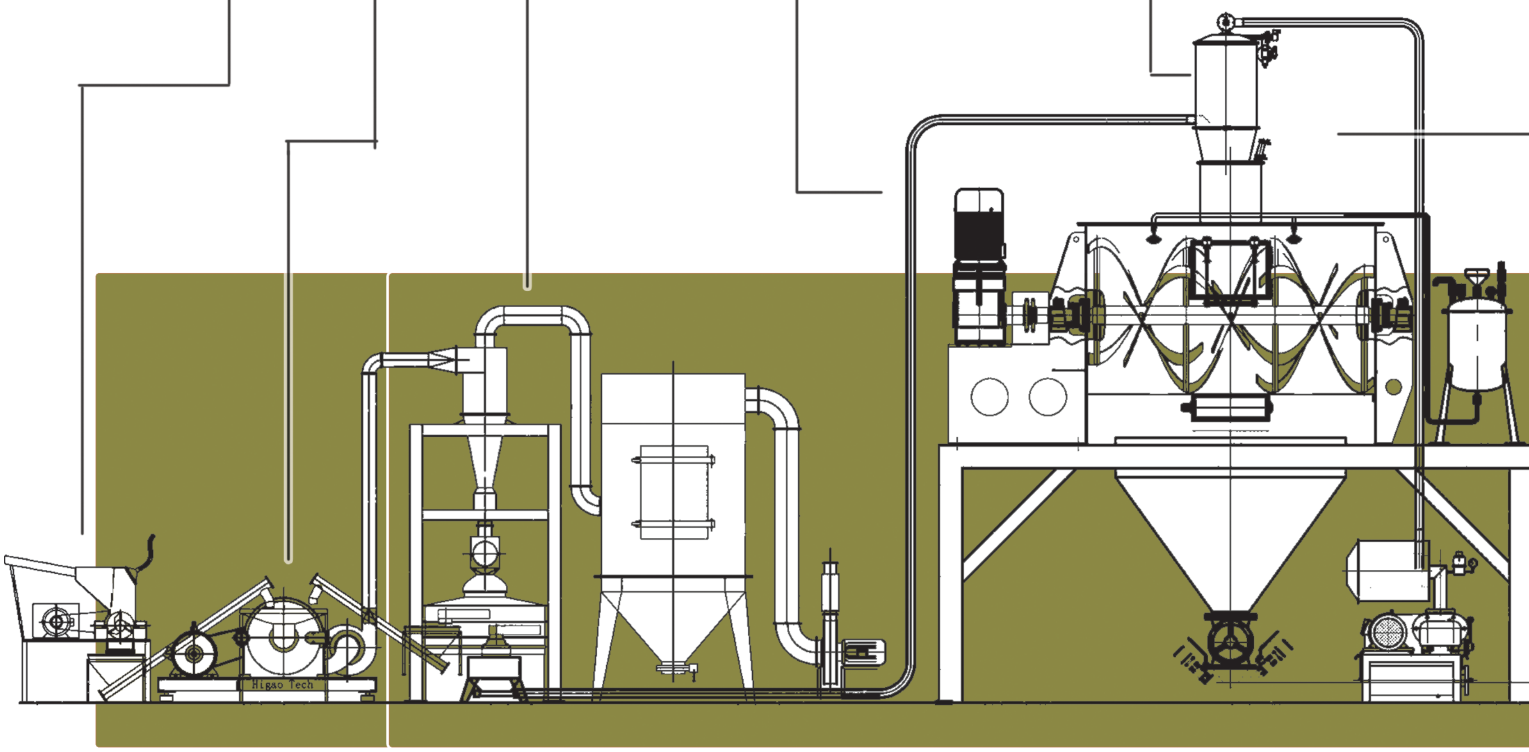
The Vibration Screening Machine is a high-frequency sieving machine breaking up the remaining larger particles into fine dust to allow the materials to be sifted out, separating the waste, and leaving it on the upper surface of the machine. The sieve can be replaced, resulting in a range of sizes, from grains to piles of flour.

Ribbon Mixer-

The Ribbon Mixer is used in a range of powder blending machines. They are most commonly used for mixing two dry solids.

Vacuum Conveyor-

Vacuum conveyors work by creating suction that keeps the dry ingredients flat on the belt surface, transporting them to the next stage of the spice making process.



Spice Production machinery

Packing machine-
The Packing Machine or the Auger filler collar type pouch packing machine, is specifically designed for filling and packaging spices into pouches or bags.

Sealing machine-
In the spice industry, the freshness of the spice and the quality go hand in hand. The sealing machine creates an induction liner which offers a way to avoid tampering at any stage of the packaging, distribution or selling processes. This airtight seal also prevents leakage which will extend the spices shelf life.

Metal detector-
One of many, the metal detector detects any metal present in the spice mixture protecting the consumer from contaminated spices.

Weigher-
The weigher adds an additional step in achieving consistency throughout the spice production process.

Metal detector

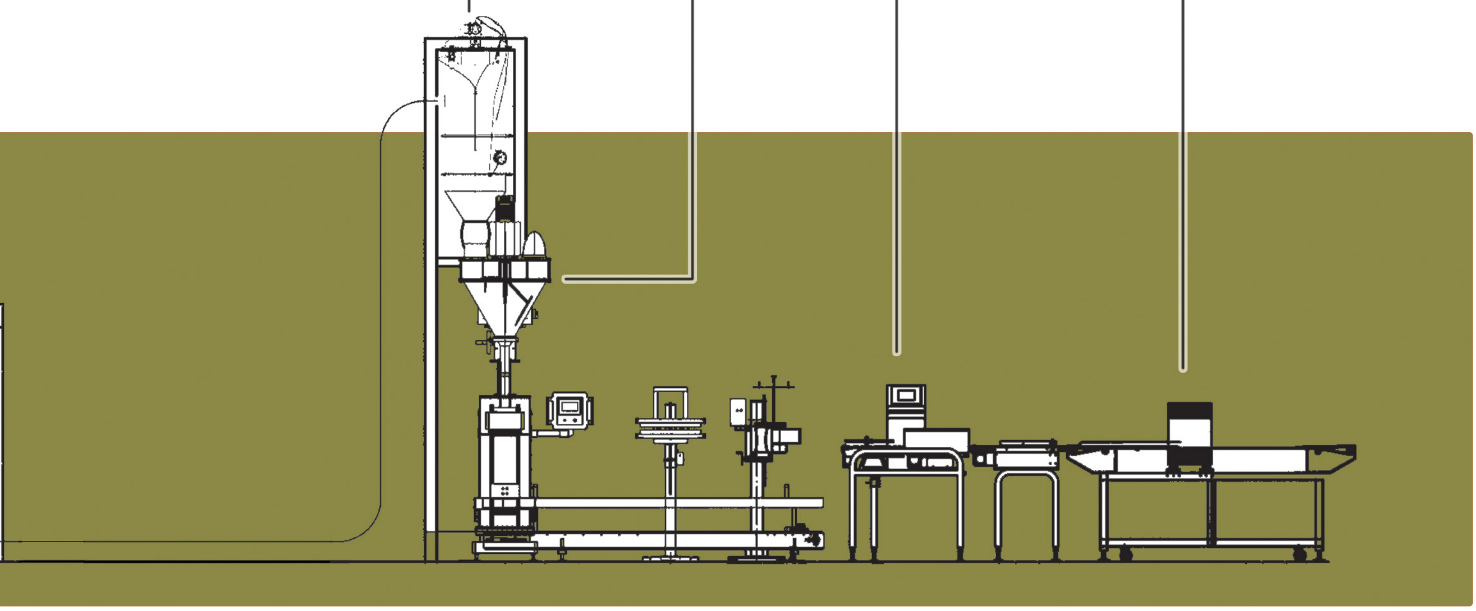


Figure 101: Spice Production machinery (Author, 2023)

Overview of the Spice Production process

Secondary/ Tertiary/ Primary	Spice plant	Growth time	Root depth	Production process	Growth conditions		Native to SA	% growing space	Growing space	spice outcome
S	**Paprika**	2.5 months	0.5m	Dehydrating	Full sun	Summer/ autumn	✓	7%	1470m2	12.72 kgs
P	**Chilies**	2-5 months	0.6m	Dehydrating	Full sun	All year round	✓	16%	3 360m2	83.03 kgs (F), 29.06 kgs (D)
S	**Parsley**	2-3 months	0.45m	Storing to air-dry	Full sun	Autumn	✓	7%	1470m2	73.5 kgs
S	**Oregano**	3 months	0.6m	Storing to air-dry	Partial sun	All year round	✓	7%	1470m2	73.5 kgs
P	**Ginger**	8-10 months	0.3m	Storing to air-dry	Partial sun	Spring/ summer	✓	13%	2 730m2	2476.62 kgs
T	**Bay leaves**	24 months	8m	Storing to air-dry	Full sun	Spring/ summer	✓	5%	1 050m2	571.53 kgs
P	**Cumin**	4 months	0.4m	Drying in oven	Full sun	Summer	✓	13%	2 730m2	136.5 kgs
P	**Coriander**	2 months	0.4m	Drying in oven	Full sun	Summer annual	✓	13%	2 730m2	136.5 kgs
P	**Turmeric**	7 months	0.9m	Drying in oven	Partial sun	Spring/ summer	✓	13%	2 730m2	4895.85 kgs
T	**Cinnamon**	24 months	1.8m	Drying in oven	Full sun	All year round	x	1%	210m2	1.13 kgs
T	**Black pepper**	36 months	3m	Drying in oven	Full sun	Summer	✓	5%	1 050m2	105 kgs

5.2.6. Detailing in design

5.2.6.1. Investigating the Substructure

The main considerations when investigating the foundation type were the distribution of loads and how to appropriately construct a building on a steep slope composed of soil with a high clay content. Due to the soil conditions (which were previously discussed in Chapter 4.3), pile foundations were chosen for the substructure of the design.

Pile foundations are often used in construction involving difficult soil conditions due to the manner in which they distribute load. They transfer the structural load of a structure to deeper, more stable layers of soil or rock, distributing the weight effectively and reducing the risk of settling. Due to the height of the machinery in spice production, the site needed to be excavated and would require foundations that could support this intended load. Pile foundations can be driven deep into the ground beyond the clay to a layer of soil or rock that will be suitable.

The drainage considerations for clay soil are particularly important due to the characteristics thereof. Clay soils are known for their high moisture retention and expansive properties, which can make them prone to swelling and shrinking. Proper drainage is, therefore, essential to reduce these soil-related challenges and ensure the stability of foundations.

A simple and effective drainage system around the foundations is a French drain or a subsoil drain. A French drain is an area around the foundation that is filled with stone and a drainage pipe to divert water away from the foundations. The stones are filled in a box-shaped geotextile fabric to allow for water permeation and to restrict any solid soils from entering the pipe. An additional layer of a waterproofing DPC material, such as an abedrain 8mm high-density waterproofing membrane, will be applied to the foundation to prevent moisture from penetrating the clay soil and reaching the substructure. The slope, as well as the grading of the site, also aids in effective drainage.

The detailing of the foundation, as well as the drainage, can be seen in Figure 102, Detail 03.

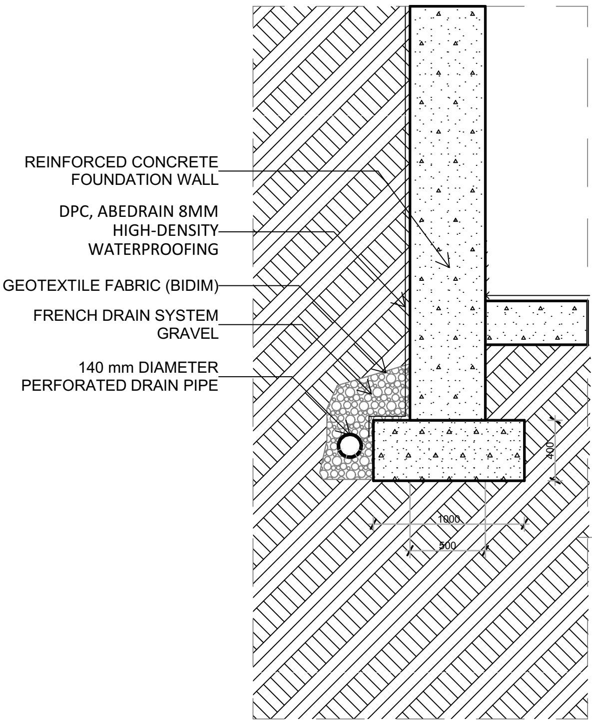
5.2.6.2. Investigating the Top structure

Due to the nature of the program of the dissertation, many of the spaces needed to have large spans. The spice production space was a key space that needed a large open space as well as a way to conceal utilities. It was due to these requirements that a coffer slab (also known as a waffle slab) was chosen as the method for constructing the top structure.

The slab will be a reinforced concrete coffer slab according to the engineer's specifications. A coffer slab is constructed of a combination of a thin topper slab and narrow ribs, which result in deep, sunken panels. This slab was incorporated into the design for several reasons. The first reason is the weight of the slab. The span desired in the spice production space required an extremely thick slab to achieve the desired span. The coffer slab would be the lightest as well as the most cost-effective option. The second reason was to conceal utilities within the slab. Coffered slabs can be used to conceal structural elements, mechanical, electrical, and plumbing systems, as well as other utilities like lighting fixtures.

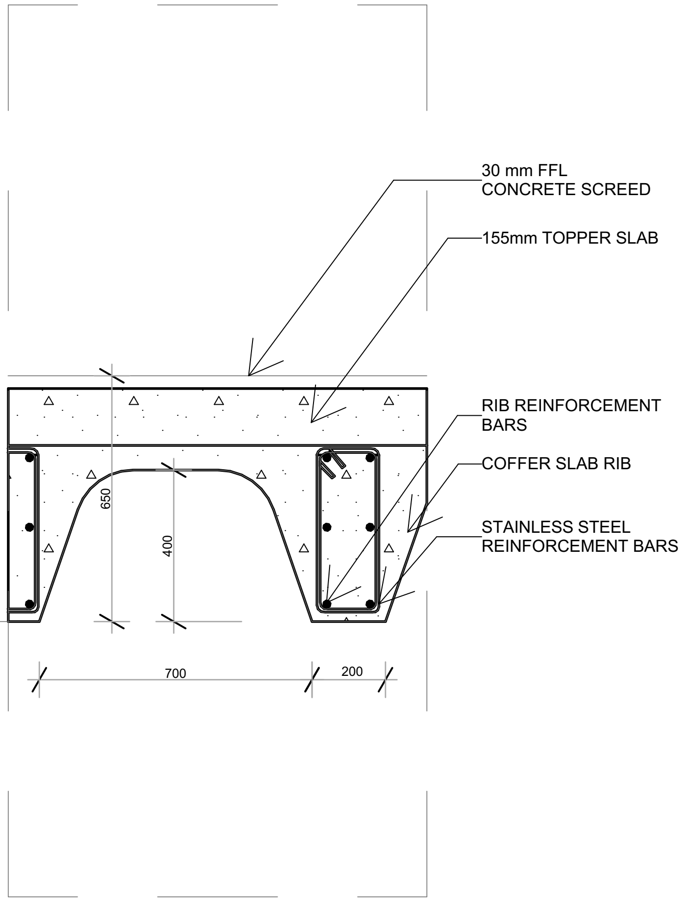
The slab will be cast with a prefabricated mold known as a Uni-span Holdings' Standard 900 series 625mm deep coffer slab system. (See Figure 103)

(W.E.S, 2020: online)



DETAIL SECTION 03
SCALE 1:50

Figure 102: Foundation detailing and basement drainage (Author, 2023)



DETAIL SECTION 04
SCALE 1:20

Figure 103: Top structure detailing (Author, 2023)

5.2.6.3. Irrigation system

Sub-surface drip irrigation will be used in the process of growing the spice plants. Drip irrigation involves a type of micro-irrigation system that saves water and nutrients by allowing a slower input of water to the roots of the spice plants. The slope of the site, as well as the gravitational pull of the water down the slope, will aid in the drainage of excess water.

Water is firstly collected from the main eThekweni Municipality lines and pumped to the main pump house. Thereafter, the water will be moved through the main lines which house a series of control valves, air gauges, water meters, and fertilizer tanks. Finally, the water will flow into the drip lines to the roots of the plants (see Figure 104).

Each dripper outlet soaks a radius of 300mm, resulting in the drip lines needing to be space 600mm, center to center. They will run every second day in the summer and autumn and twice a week during spring and winter.

(URI, 2023: online)

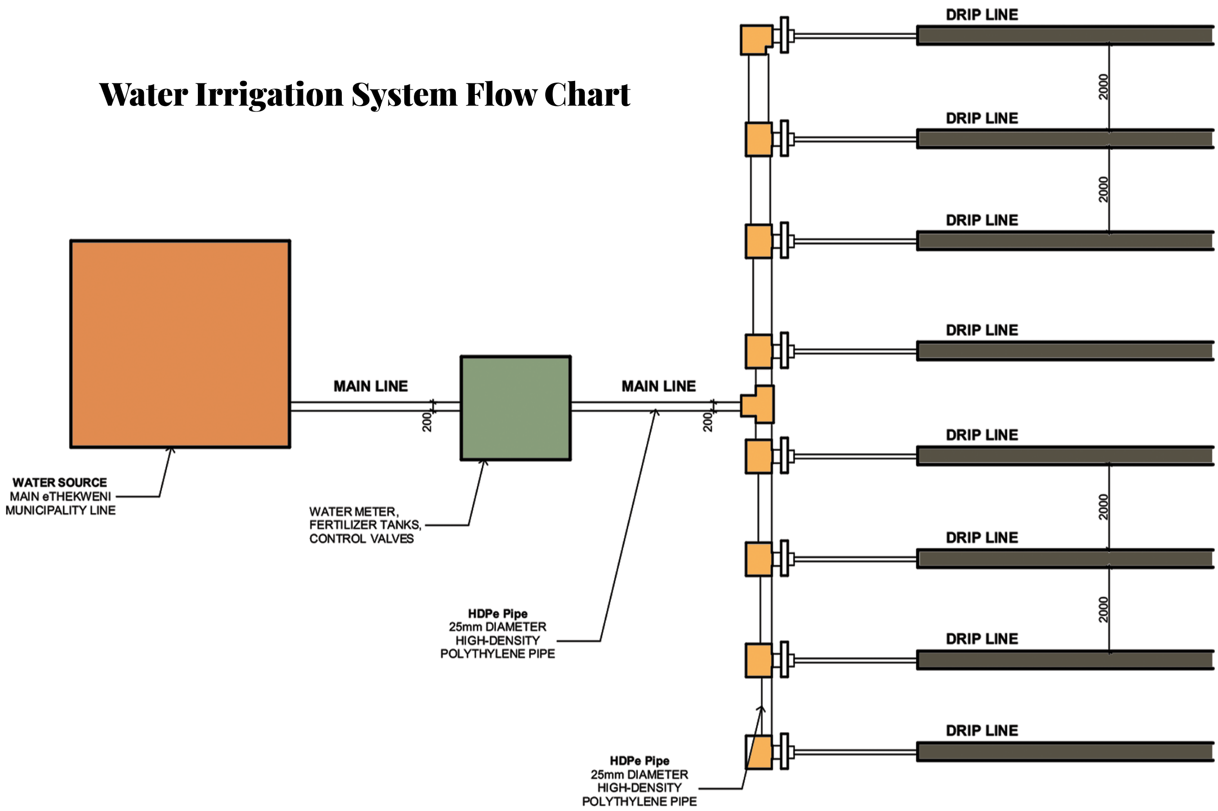


Figure 104: Water irrigation systems (Author, 2023)

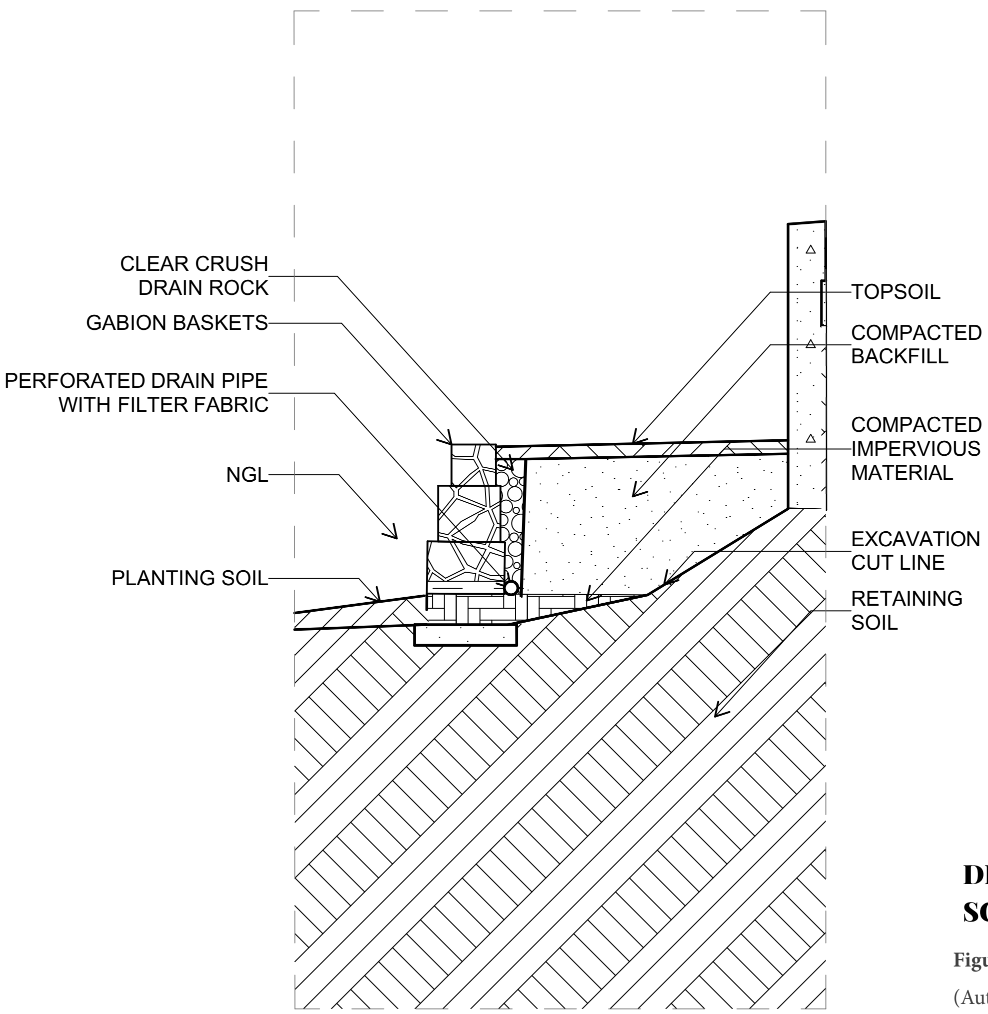
Figure 105: Diagrammatic layout of water irrigation system (Author, 2023)

5.2.6.4. Terrace detailing

Due to the natural incline of the terrain and the necessity for crafting stepped platforms for cultivating crops, gabion-basket retaining walls will be constructed from locally sourced stone, which also serves as a decorative stone cladding element throughout the design. The detailing of the gabion baskets can be seen in Figure 106, Detail 05.

Gabion baskets are widely used throughout South Africa for construction and landscaping purposes, such as retaining walls and erosion control. These baskets are typically made from wire or galvanized steel and are filled with stones or rocks.

On-site, the wire mesh is folded into a basket-like structure. This basket is then carefully positioned upon a compacted backfill and generously filled with the excavated stone. To create a solid barrier, the space behind the gabion basket is filled with tightly compacted impervious material. Crucially, a layer of clear crushed drainage rock, with a drainage pipe at the base, must be placed between the compacted fill and the gabion baskets, ensuring effective water drainage. Finally, a layer of nutrient-rich topsoil is added to provide a suitable environment for cultivating spice plants.



DETAIL SECTION 05
SCALE 1:50

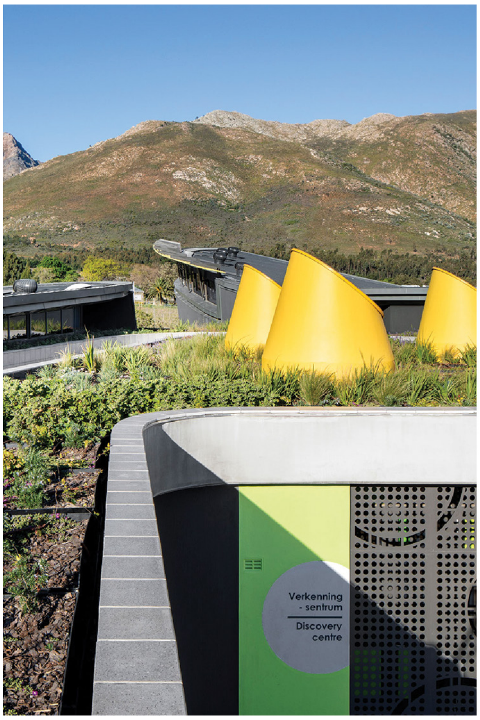
Figure 106: Gabion Basket detailing (Author, 2023)

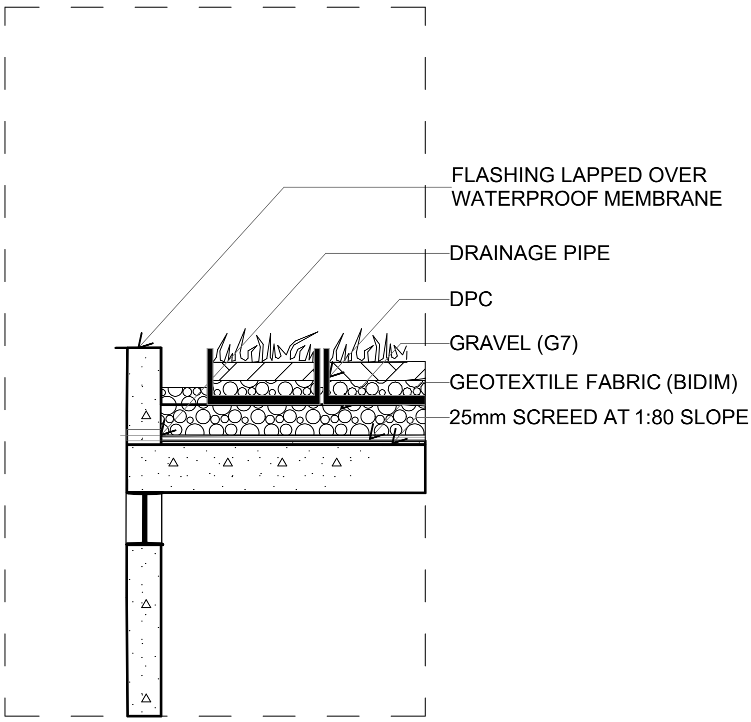
5.2.6.5. Green Roof Construction

The use of green roofs has been used extensively throughout the design to enhance the connect between the earth and the architecture and to soften the connection between the architecture and sky.

Although there are many benefits to green roofs, there are also challenging aspects. Water scarcity, extreme weather, and maintenance costs are some of the main reasons that green roofs often become unsuccessful in South Africa. To mitigate these challenges, in this dissertation, the green roof is not a solid element but is rather composed of many planter boxes. This concept has been derived from the BOSJES Chapel in the Western Cape. The use of planter boxes reduces the need for excess water wastage, and should a plant die due to extreme weather, the single planter box can be removed and replaced rather than the entire green roof.

The planter boxes will be placed on gravel (G7) on a screeded concrete roof with a slope of 1:80. A geotextile fabric (bidim) will be placed between the gravel and screed to allow for water runoff to the drainage pipes. Each planter box acts as an isolated system and is composed of a layer of topsoil, gravel, and DPC. This can be seen in Figure 107, Detail 06.



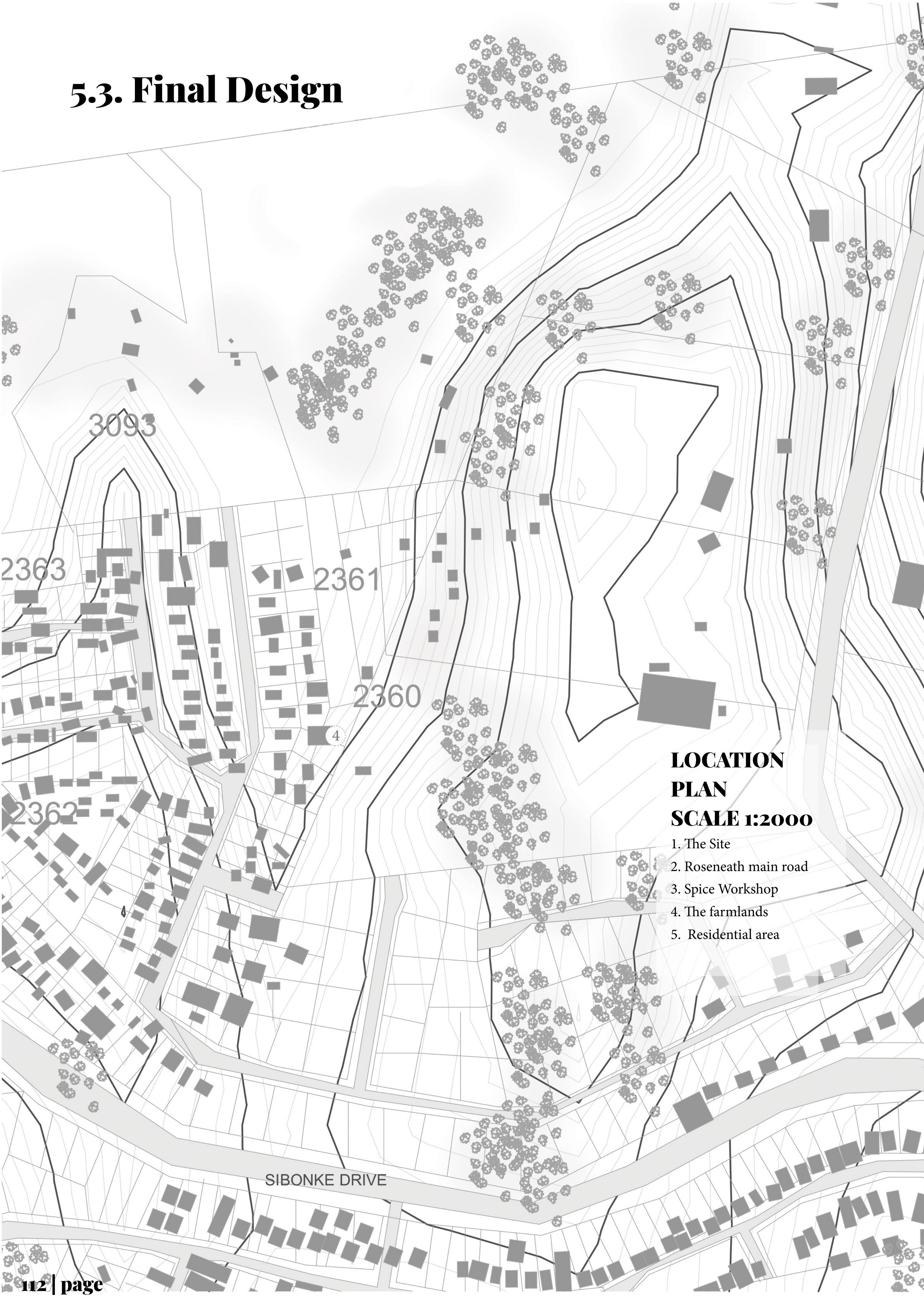


DETAIL SECTION 06
SCALE 1:20

Figure 108: BOSJES planter boxes green roof (BOSJES, 2016: online)

Figure 107: Green roofs (Author, 2023)

5.3. Final Design



LOCATION PLAN SCALE 1:2000

1. The Site
2. Roseneath main road
3. Spice Workshop
4. The farmlands
5. Residential area

87/1357
1608
3
1
2
160 000
161 000
162 000
163 000
164 000
165 000
166 000
167 000
168 000
169 000
170 000
171 000
172 000

ROOF PLAN
SCALE 1:500

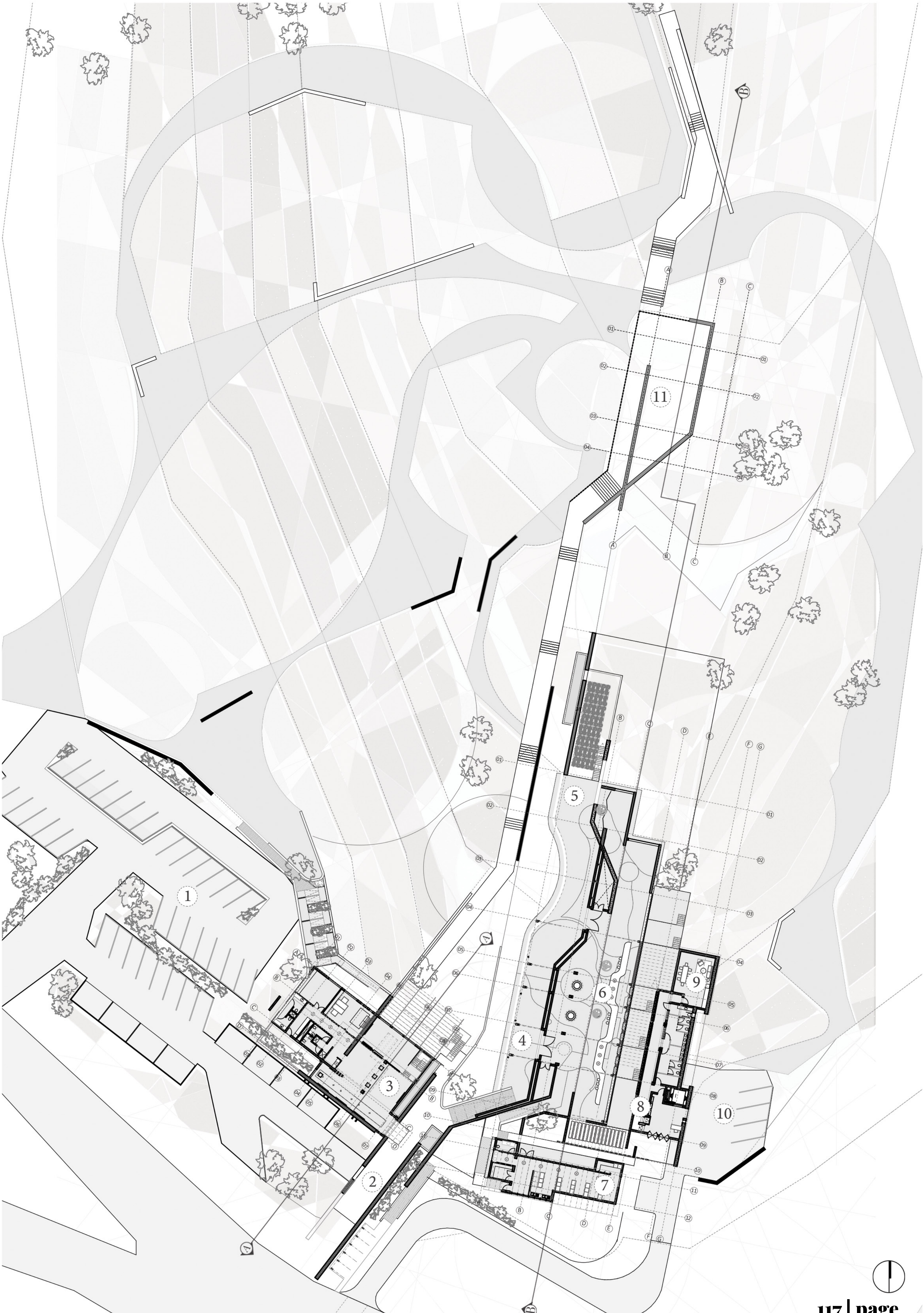
1. Parking
2. Art Gallery & Museum
3. Spice Workshop
4. Spice Boutique
5. Tea Workshop


1
2
3
4
5

GROUND FLOOR PLAN SCALE 1:500

Spice Boutique

1. Parking
2. Main Entrance
3. Art Gallery & Museum
4. Exterior Veranda
5. View Point
6. Spice Boutique
7. Spice Workshop
8. Service Block
9. Staff Room
10. B.O.H Deliveries
11. Tea Workshop


1
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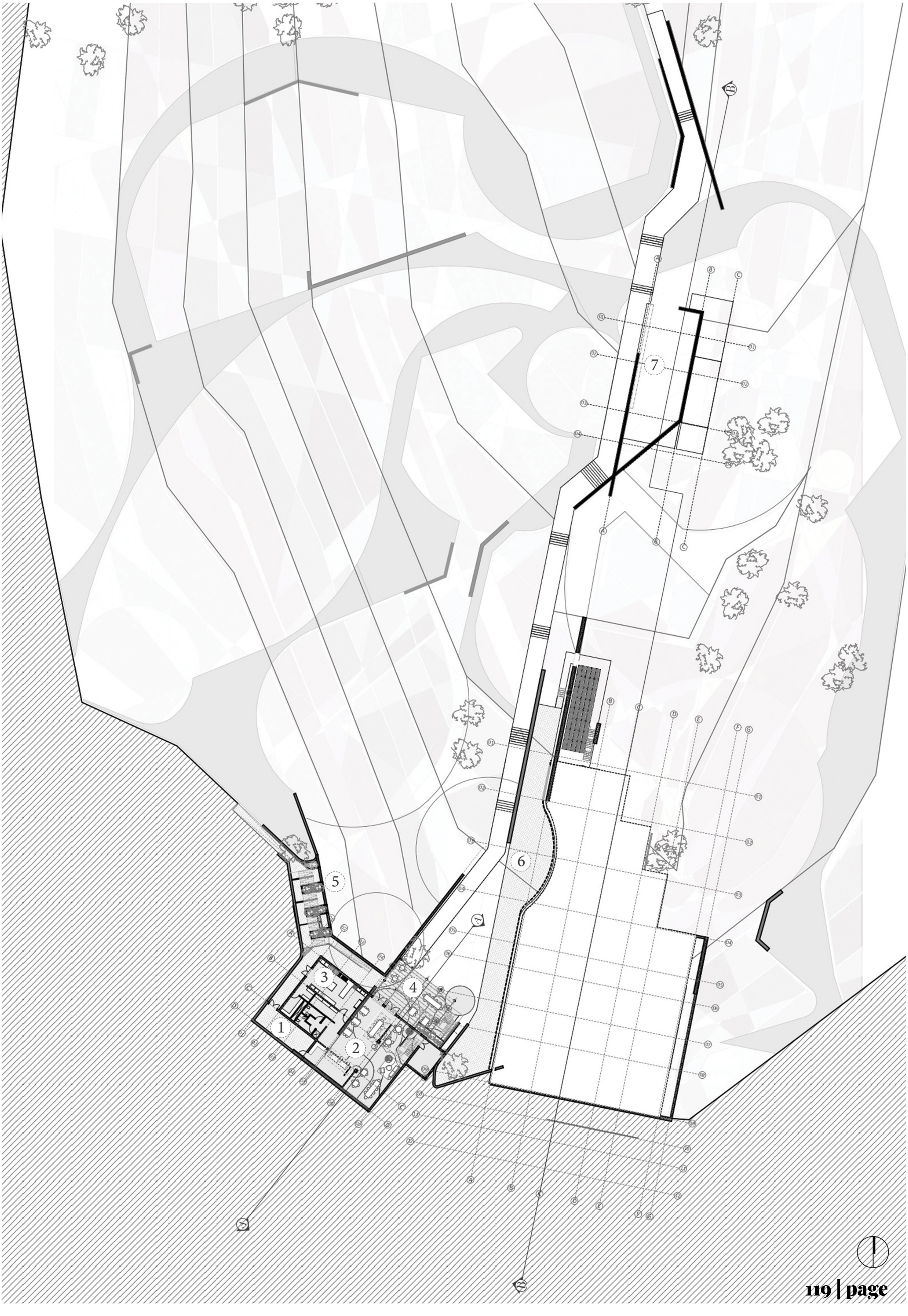
11

LEVEL -1
SCALE 1:500
Restaurant

1. B.O.H
2. Inside seating
3. Kitchen
4. Exterior seating
5. Ramp from parking
6. Spice production viewing point
7. Tea Workshop



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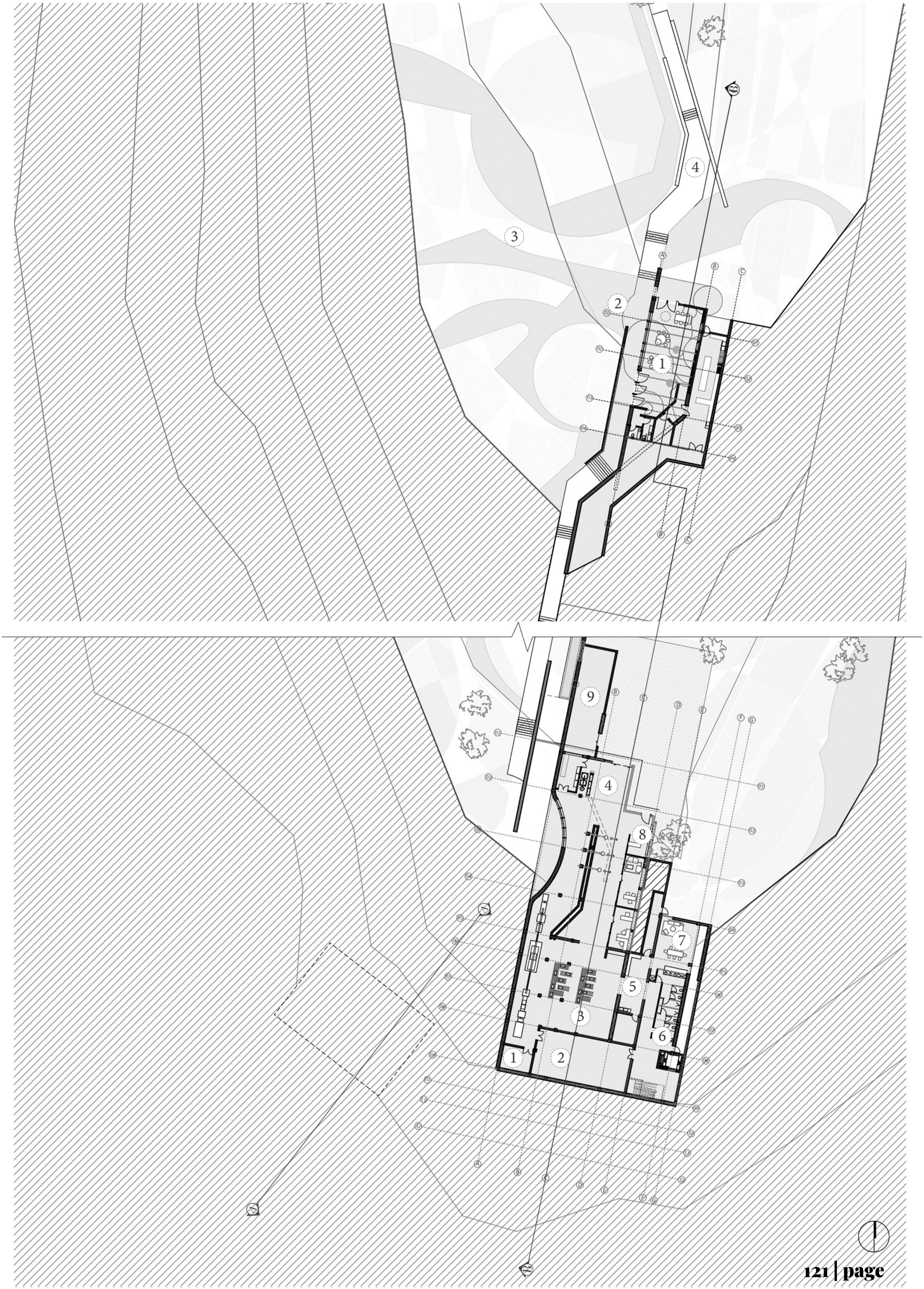
LEVEL -3
SCALE 1:500
Tea Lounge

1. Tea Workshop
2. Spill out
3. Spice gardens
4. View point

LEVEL -2
SCALE 1:500
Spice Production

1. Pump room
2. Mass storage
3. Production space
4. Washing area
5. Staff lockers
6. Ablutions
7. Staff room
8. Front of house
9. Tool storage
10. Tea workshop



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9

MAPPING THE SENSES

- Sight
- Smell
- Taste
- Sound
- Touch

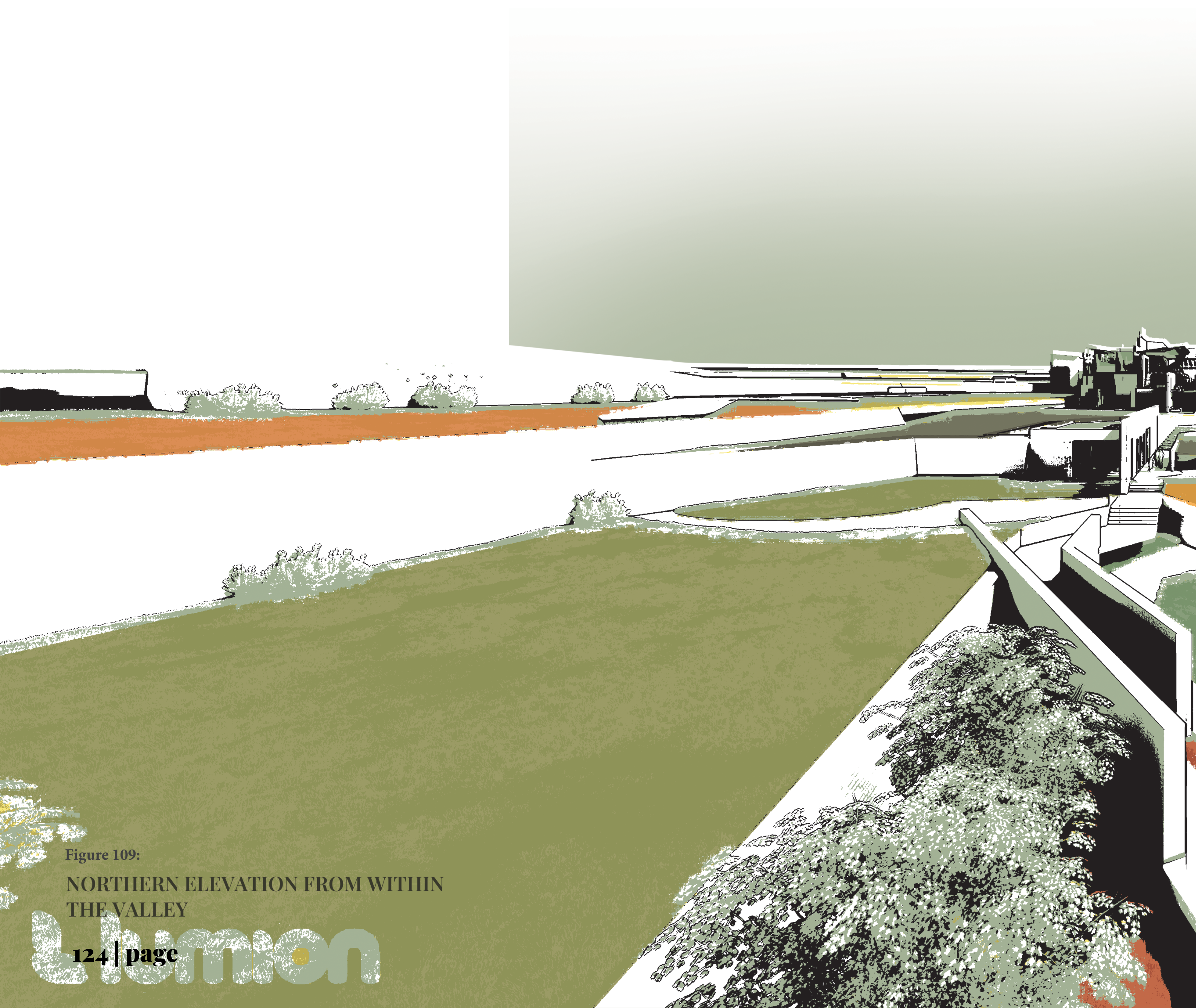
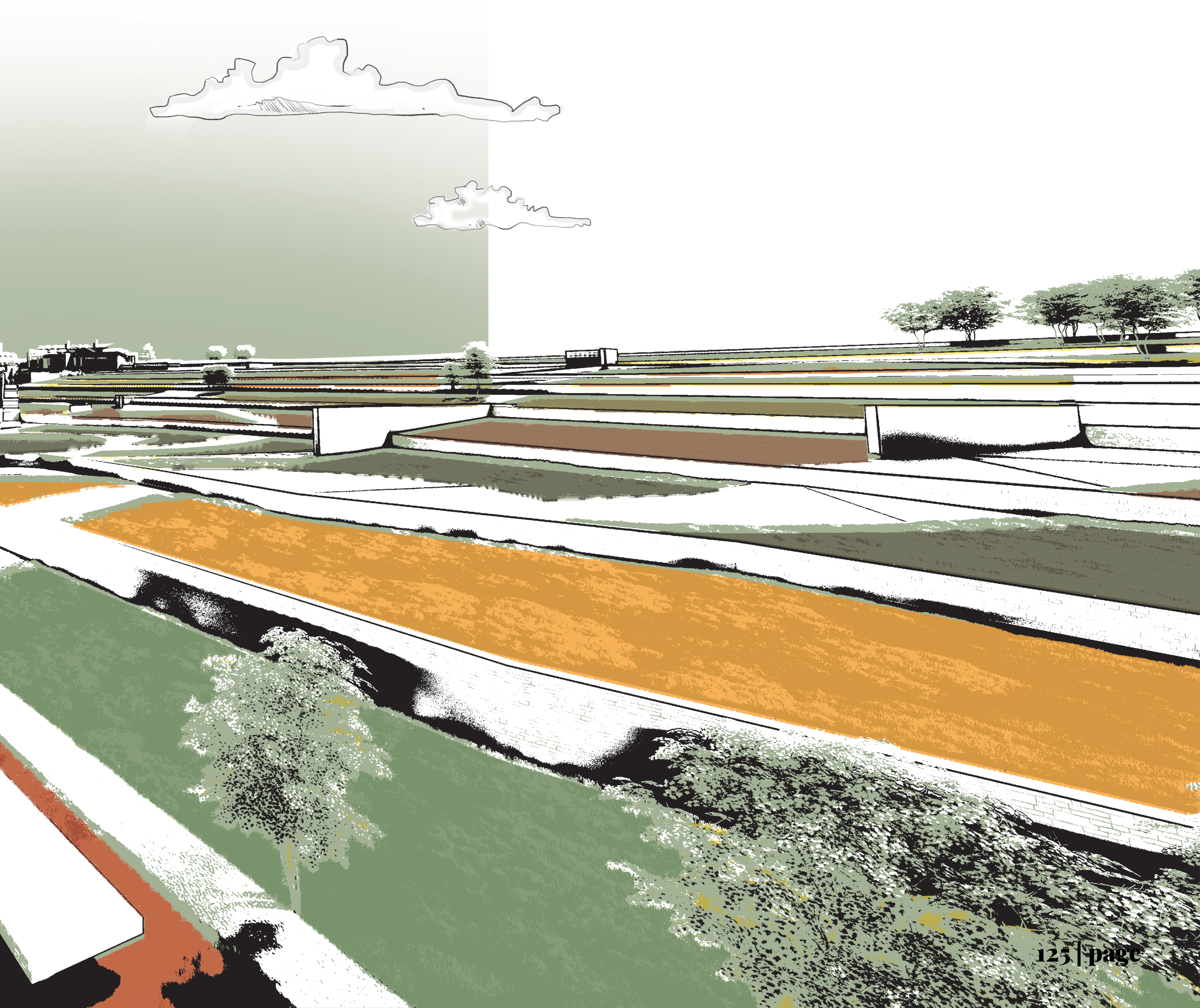
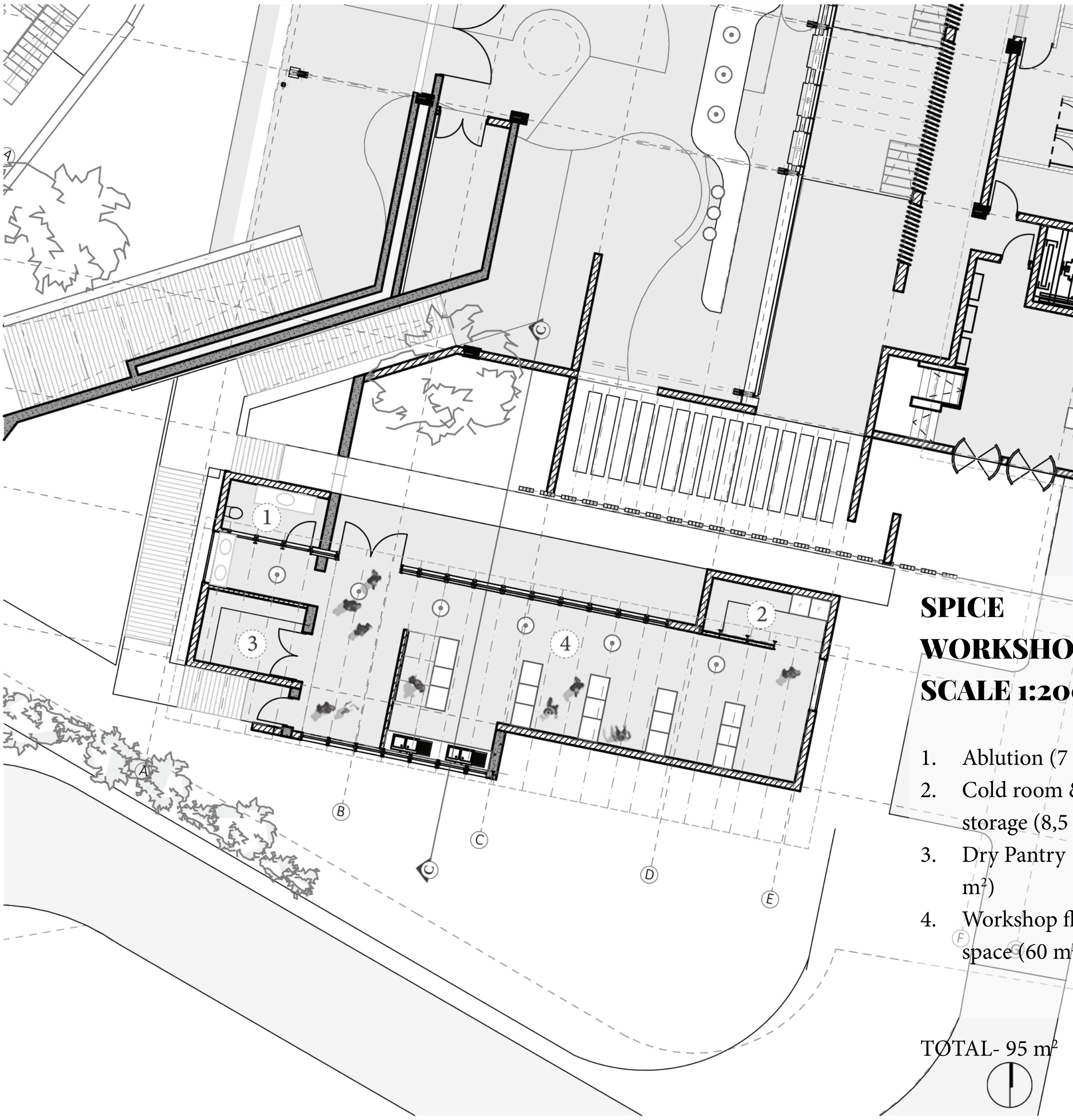


Figure 109:

NORTHERN ELEVATION FROM WITHIN THE VALLEY





SPICE WORKSHOP SCALE 1:200

1. Ablution (7 m^2)
2. Cold room & storage (8,5 m^2)
3. Dry Pantry (10 m^2)
4. Workshop floor space (60 m^2)

TOTAL- 95 m^2

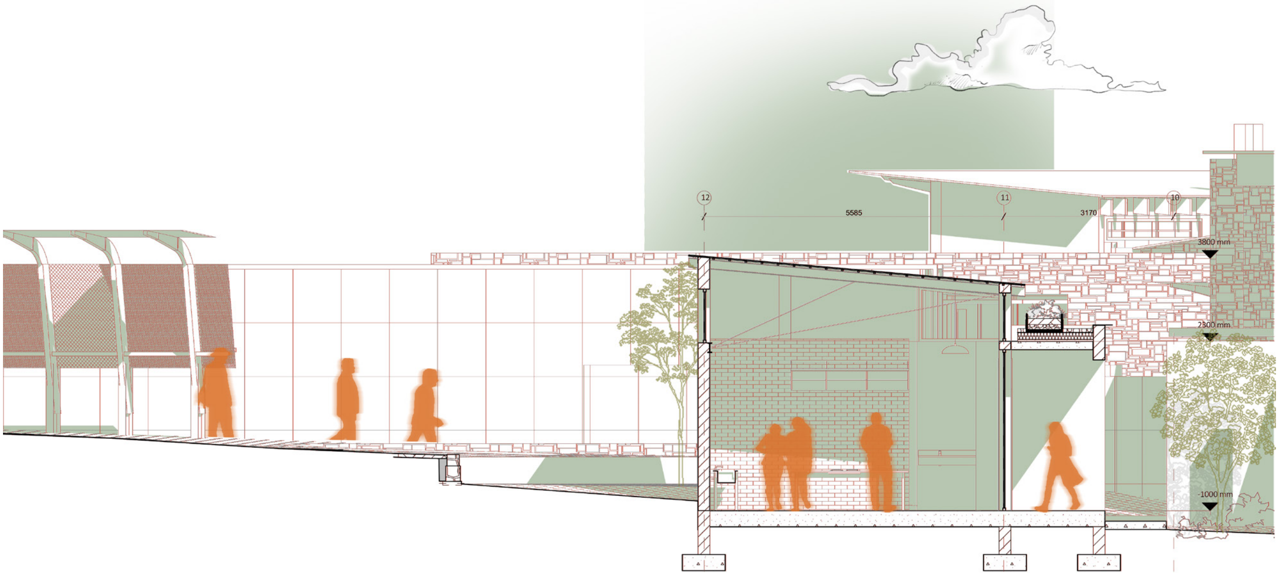
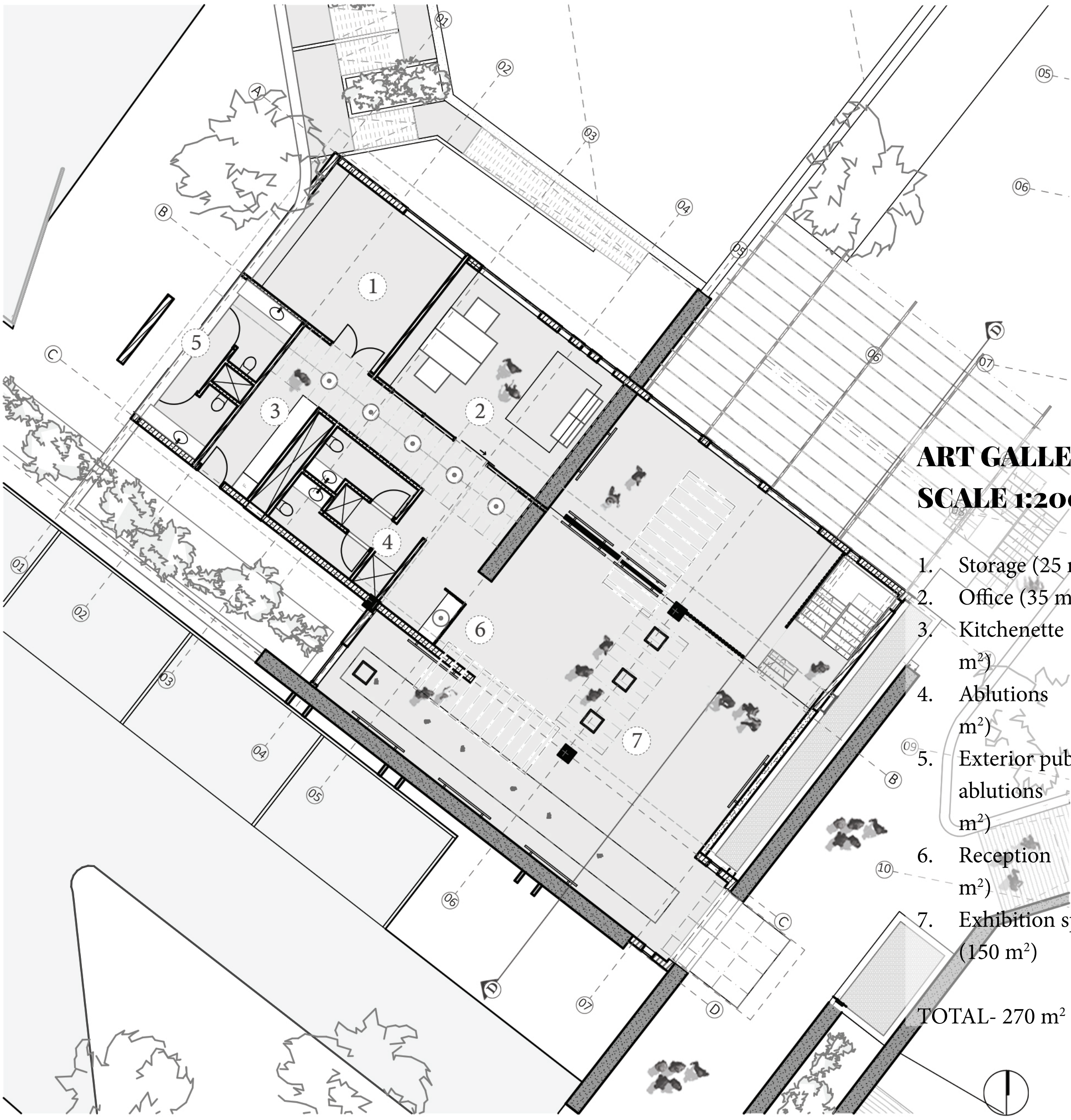


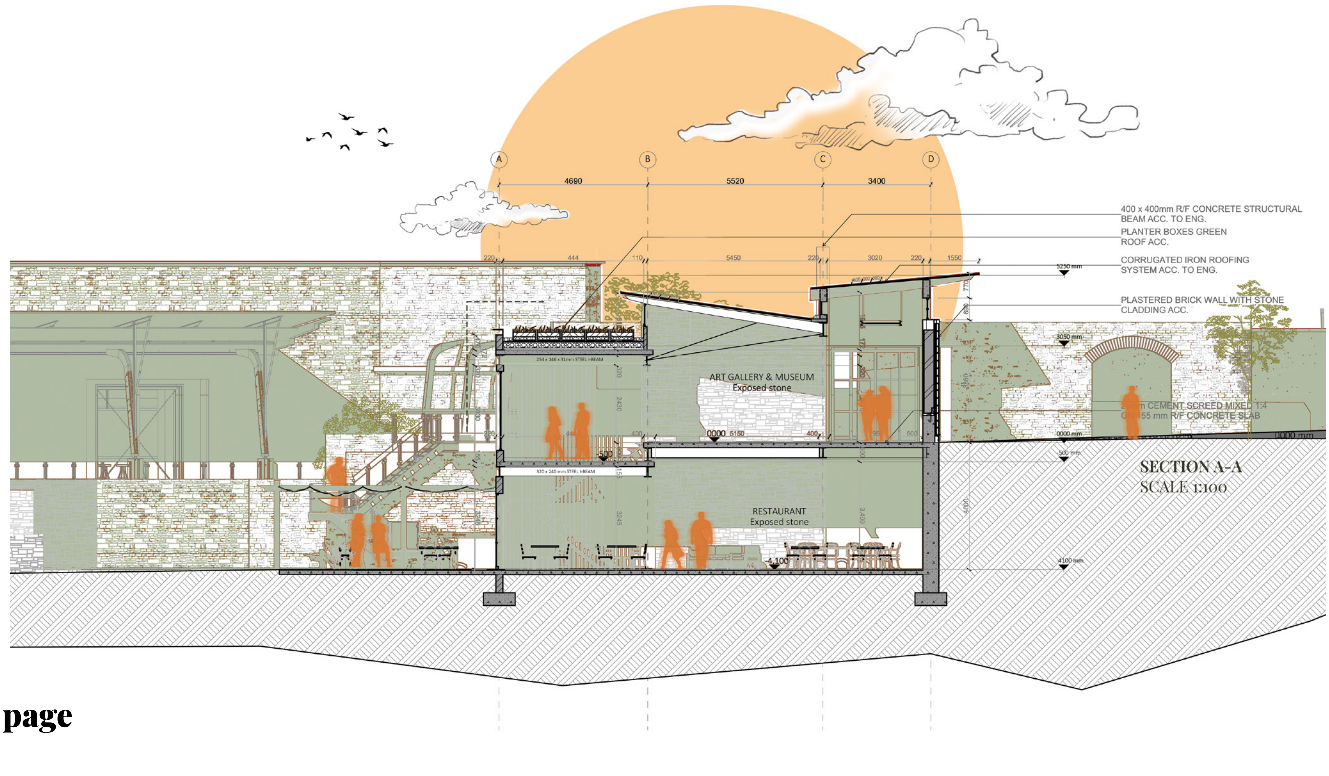
Figure 110: The Spice Workshop (Author, 2023)



ART GALLERY
SCALE 1:200

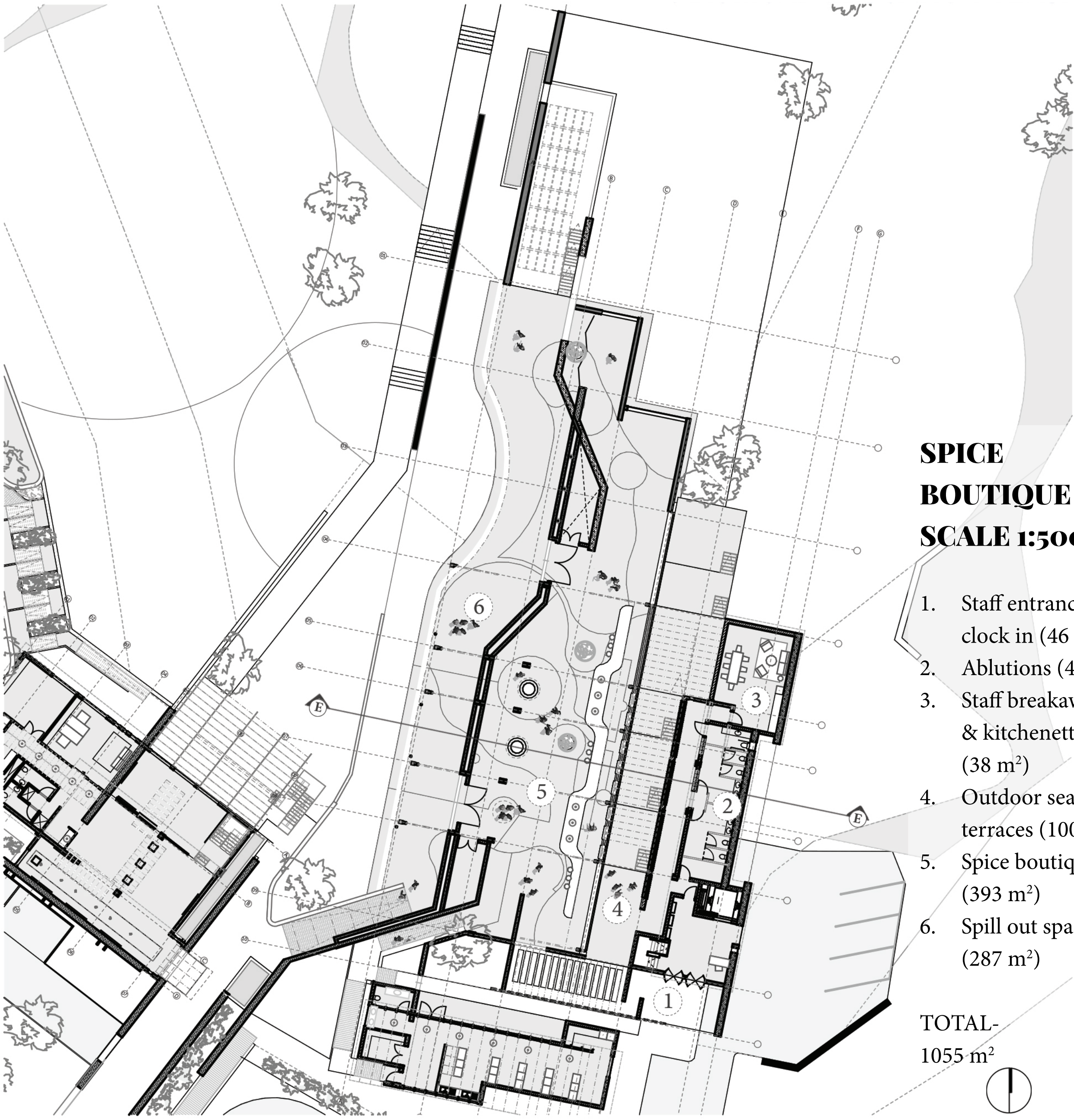
1. Storage (25 m²)
2. Office (35 m²)
3. Kitchenette (7 m²)
4. Ablutions (10 m²)
5. Exterior public ablutions (14 m²)
6. Reception (10 m²)
7. Exhibition space (150 m²)

TOTAL- 270 m²



SECTION A-A
SCALE 1:100

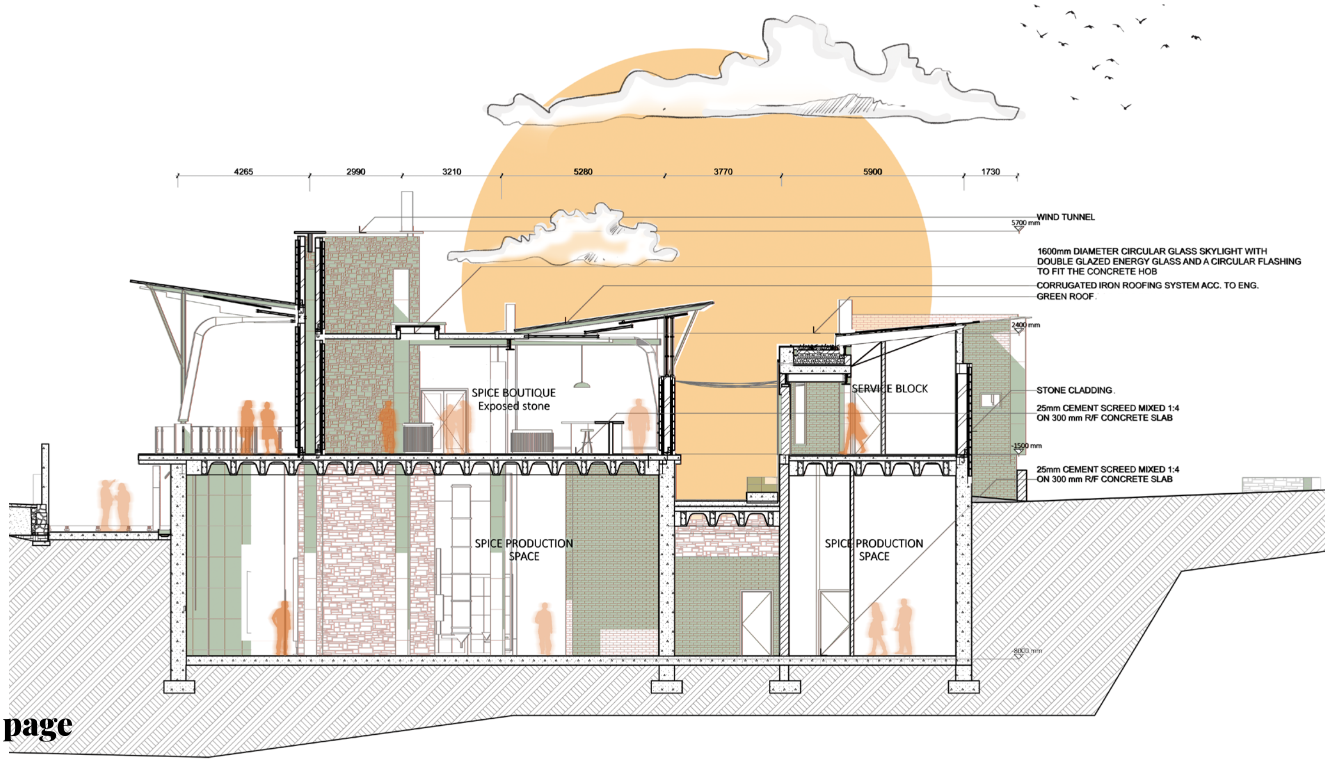
Figure 111: Viewing the restuarant from the parking lot ramp (Author, 2023)
Figure 112: Exterior view of the restaurant (Author, 2023)
Figure 113: Interior views of the art gallery (Author, 2023)

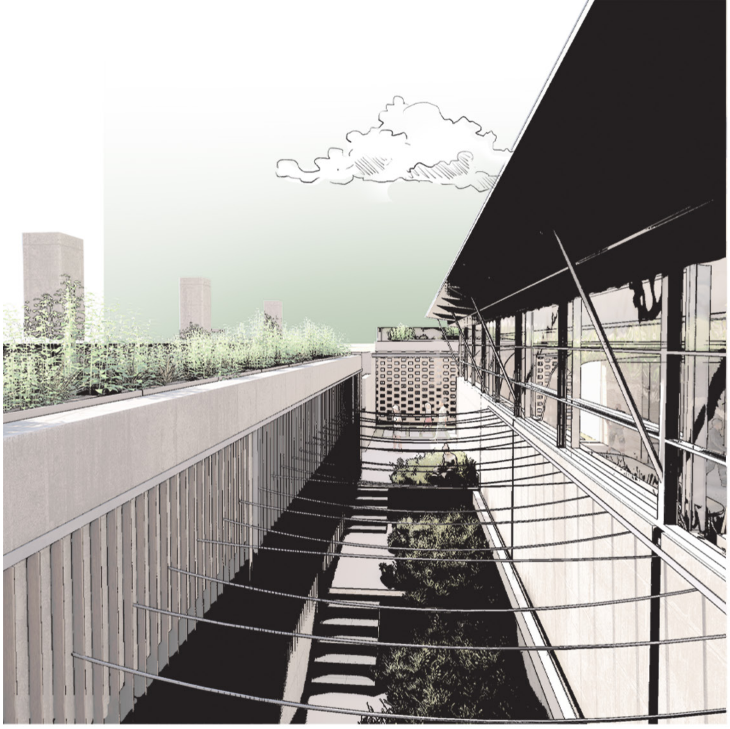


SPICE BOUTIQUE SCALE 1:500

1. Staff entrance & clock in (46 m^2)
2. Ablutions (41 m^2)
3. Staff breakaway & kitchenette (38 m^2)
4. Outdoor seating terraces (100 m^2)
5. Spice boutique (393 m^2)
6. Spill out space (287 m^2)

TOTAL- 1055 m^2





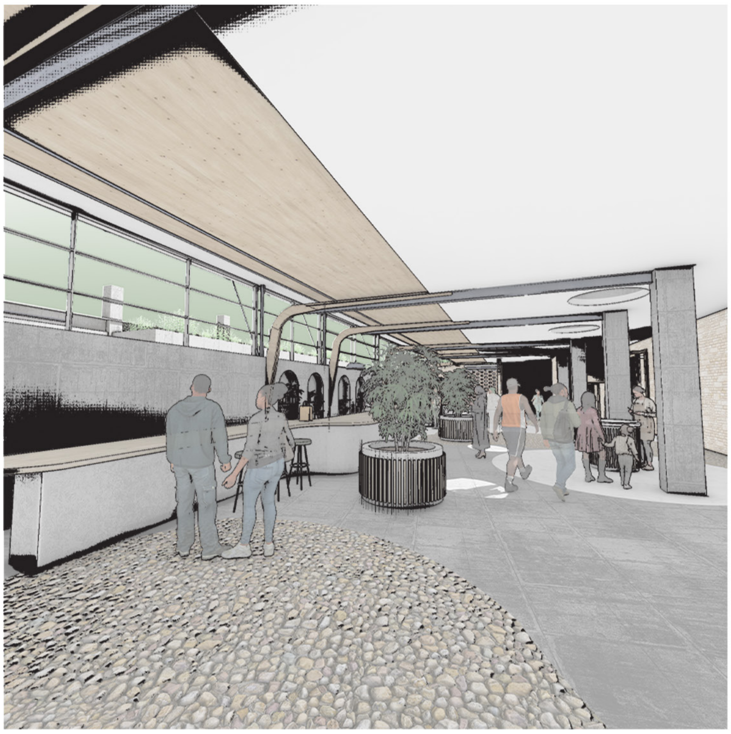
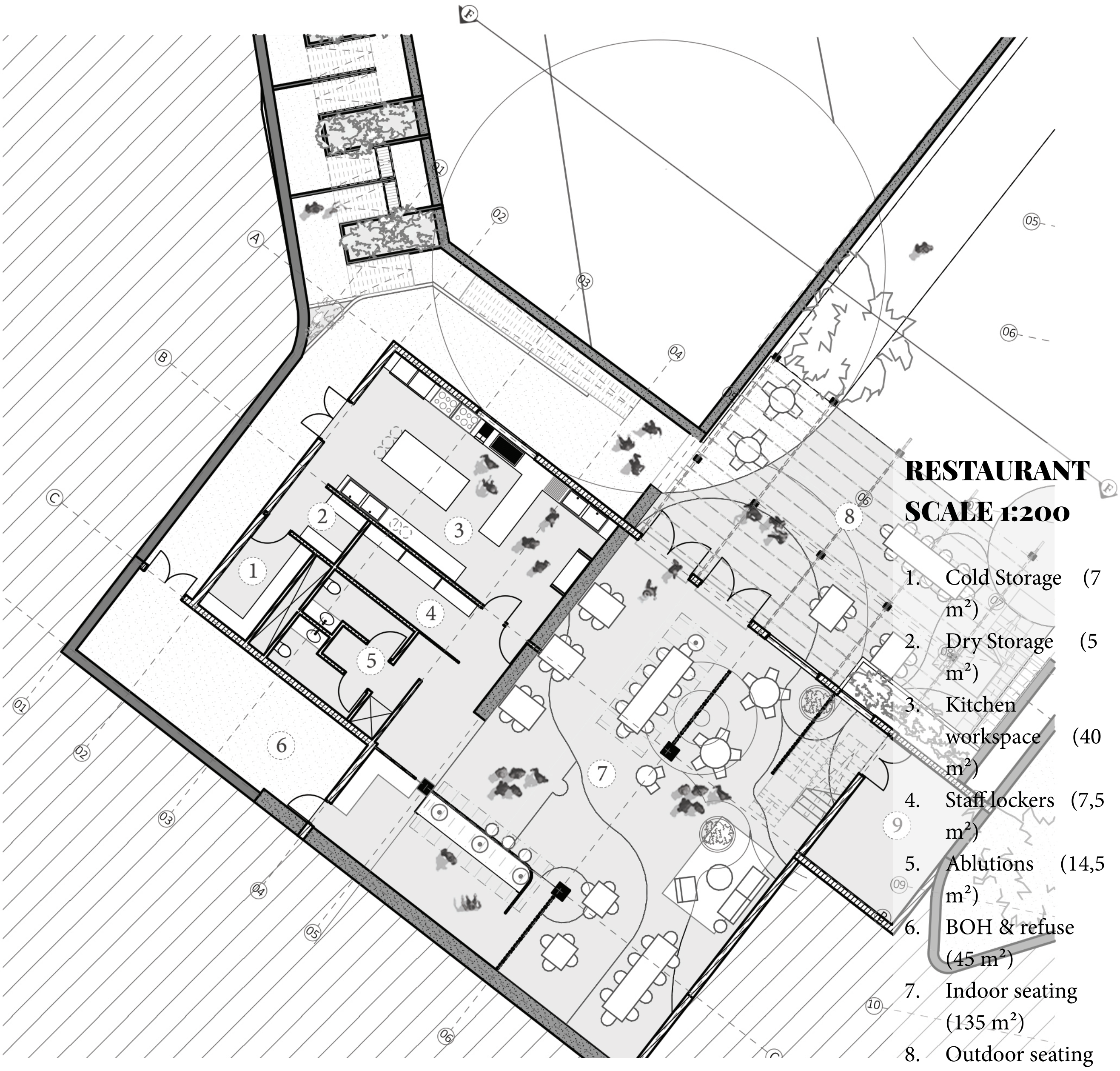


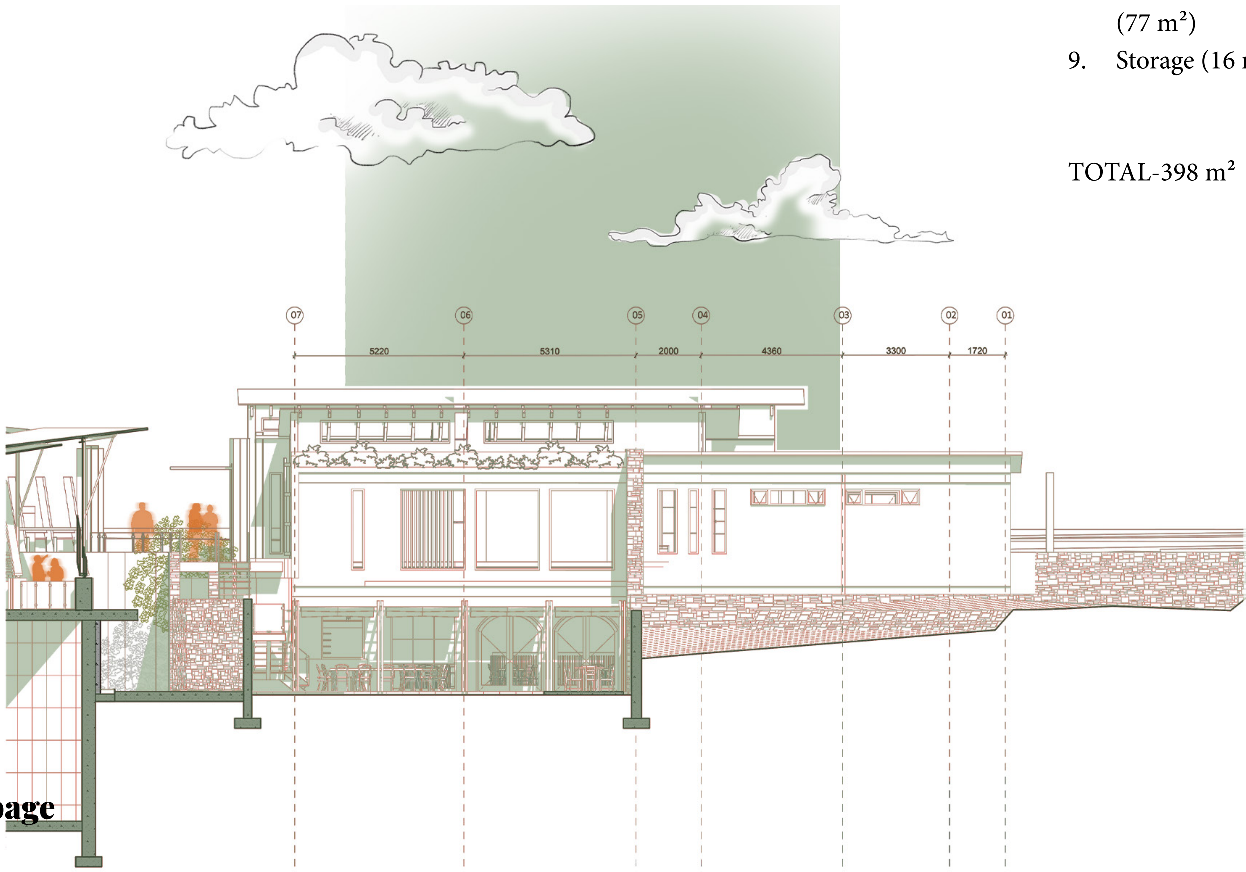
Figure 114: Air drying spice terraces (Author, 2023)
Figure 115: The Spice Boutique (Author, 2023)
Figure 116: Exterior Spice Boutique walkway (Author, 2023)



RESTAURANT
SCALE 1:200

1. Cold Storage (7 m²)
2. Dry Storage (5 m²)
3. Kitchen workspace (40 m²)
4. Staff lockers (7,5 m²)
5. Ablutions (14,5 m²)
6. BOH & refuse (45 m²)
7. Indoor seating (135 m²)
8. Outdoor seating (77 m²)
9. Storage (16 m²)

TOTAL-398 m²



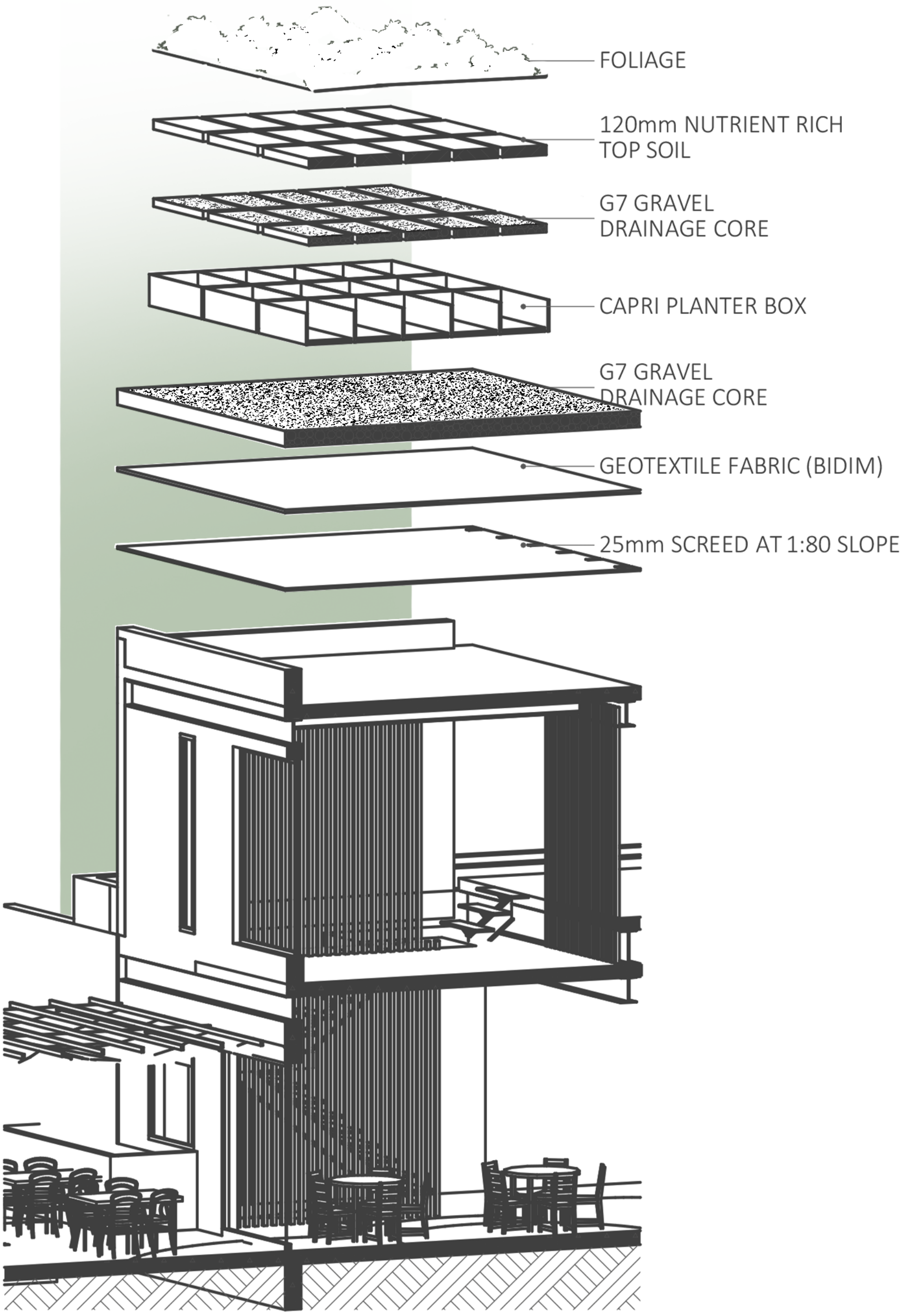


Figure 117: Exploded axo of the Green roof system
(Author, 2023)

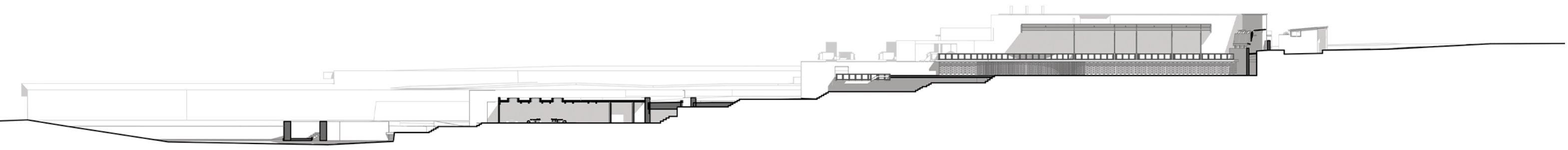
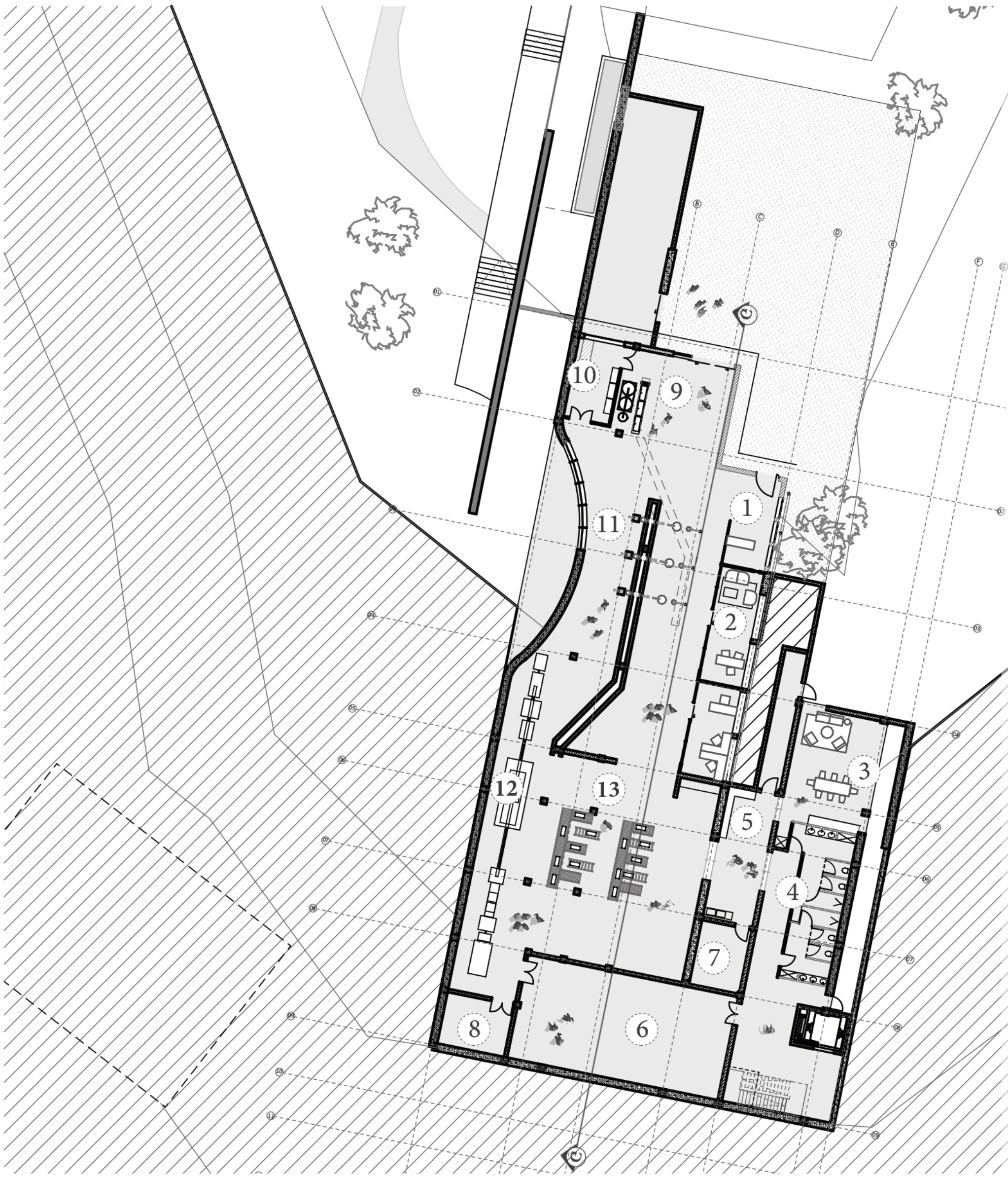


Figure 118: Section showing the slope of the site
(Author, 2023)



SPICE PRODUCTION SCALE 1:500

Admin

1. Front of house (35 m²)
2. Offices (41 m²)

Staff

3. Staff area and kitchenette (44 m²)
4. Ablutions and showers (41 m²)
5. Lockers (13 m²)

Storage

6. Mass dry storage (92 m²)
7. Utility storage (15 m²)
8. Pump house (21 m²)

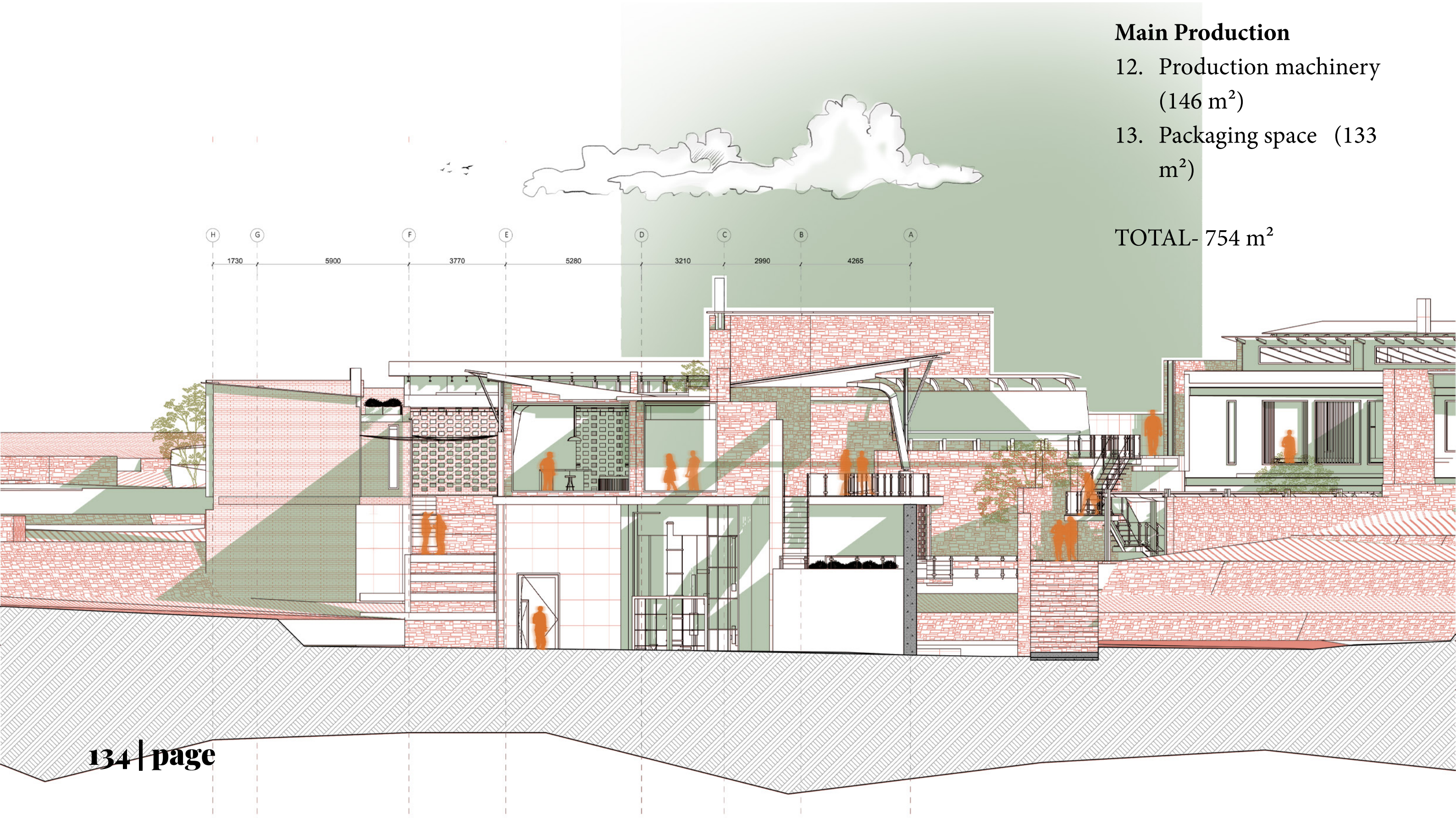
Cleaning Area

9. Winnowing and rinsing (52 m²)
10. Crate cleaning and storage (15 m²)
11. Mechanical cleaning and drying (66 m²)

Main Production

12. Production machinery (146 m²)
13. Packaging space (133 m²)

TOTAL- 754 m²



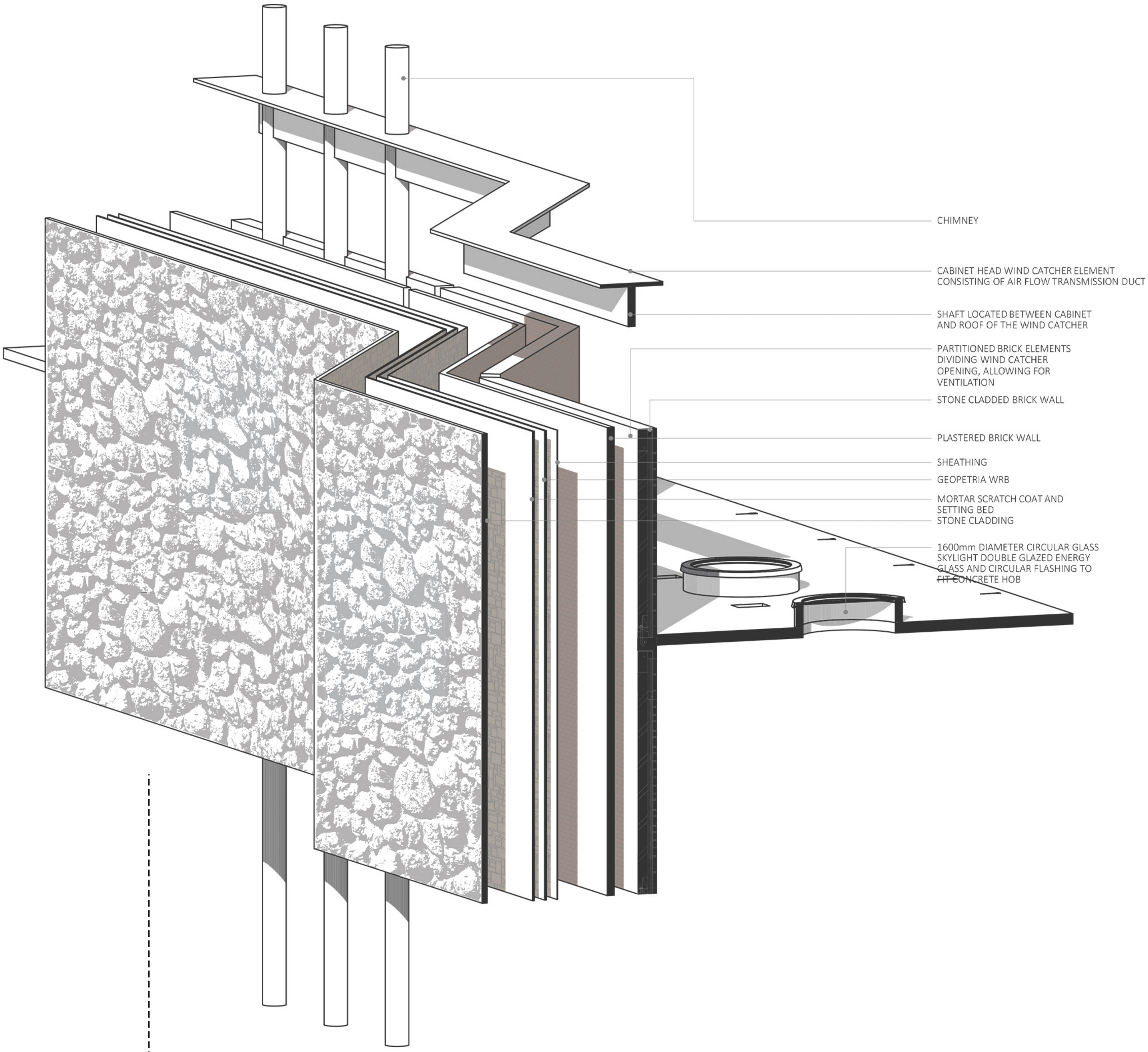


Figure 120: Exploded axo of the wind tunnel system (Author, 2023)

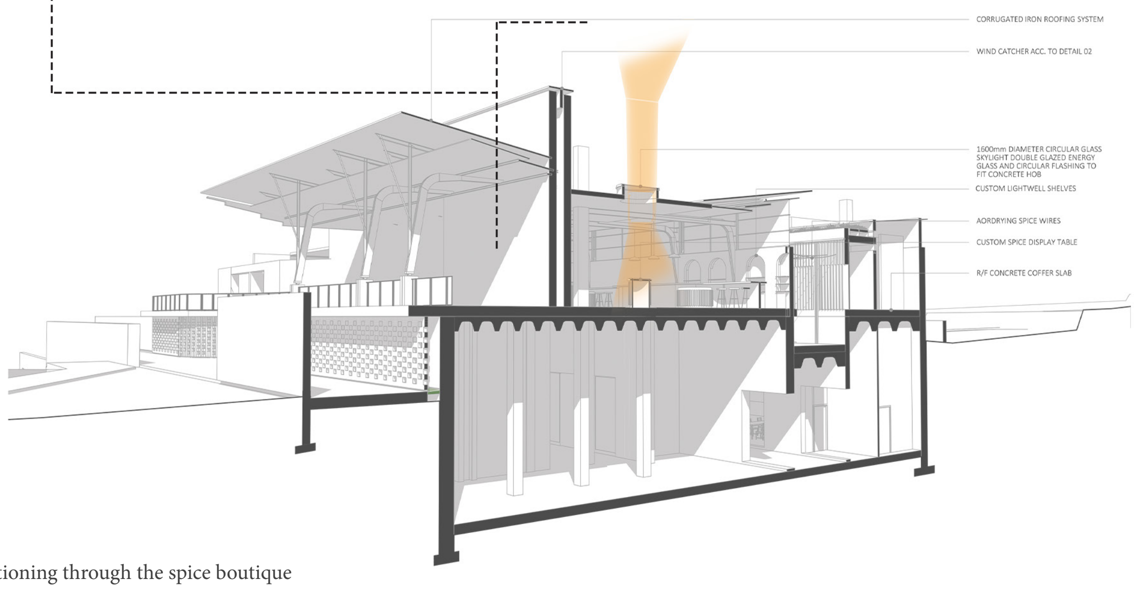
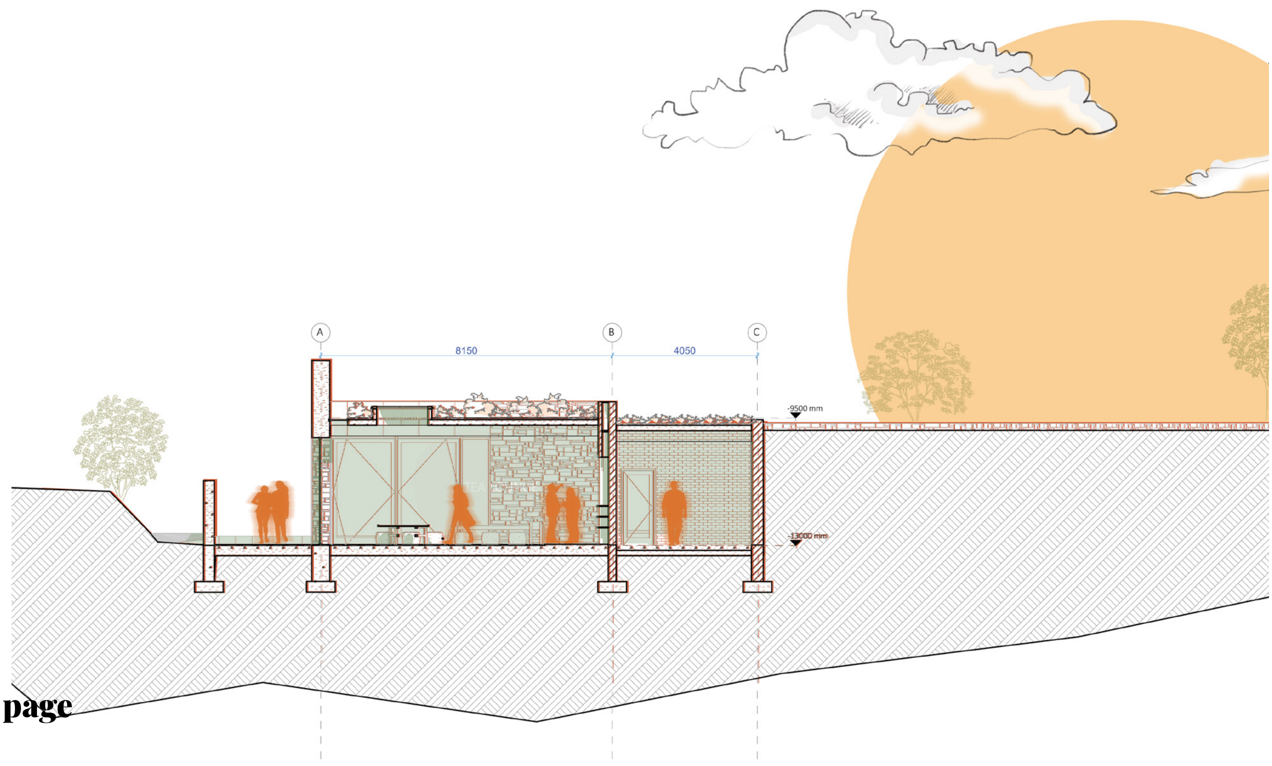


Figure 121: Sectioning through the spice boutique and production space (Author, 2023)

TEA LOUNGE
SCALE 1:200

1. Floor space (290 m²)
2. BOH (60 m²)
3. Ablutions (16 m²)

TOTAL- 378 m²



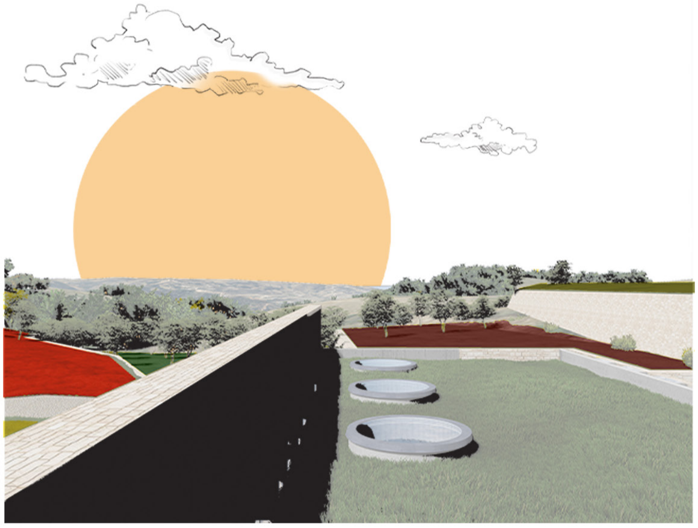
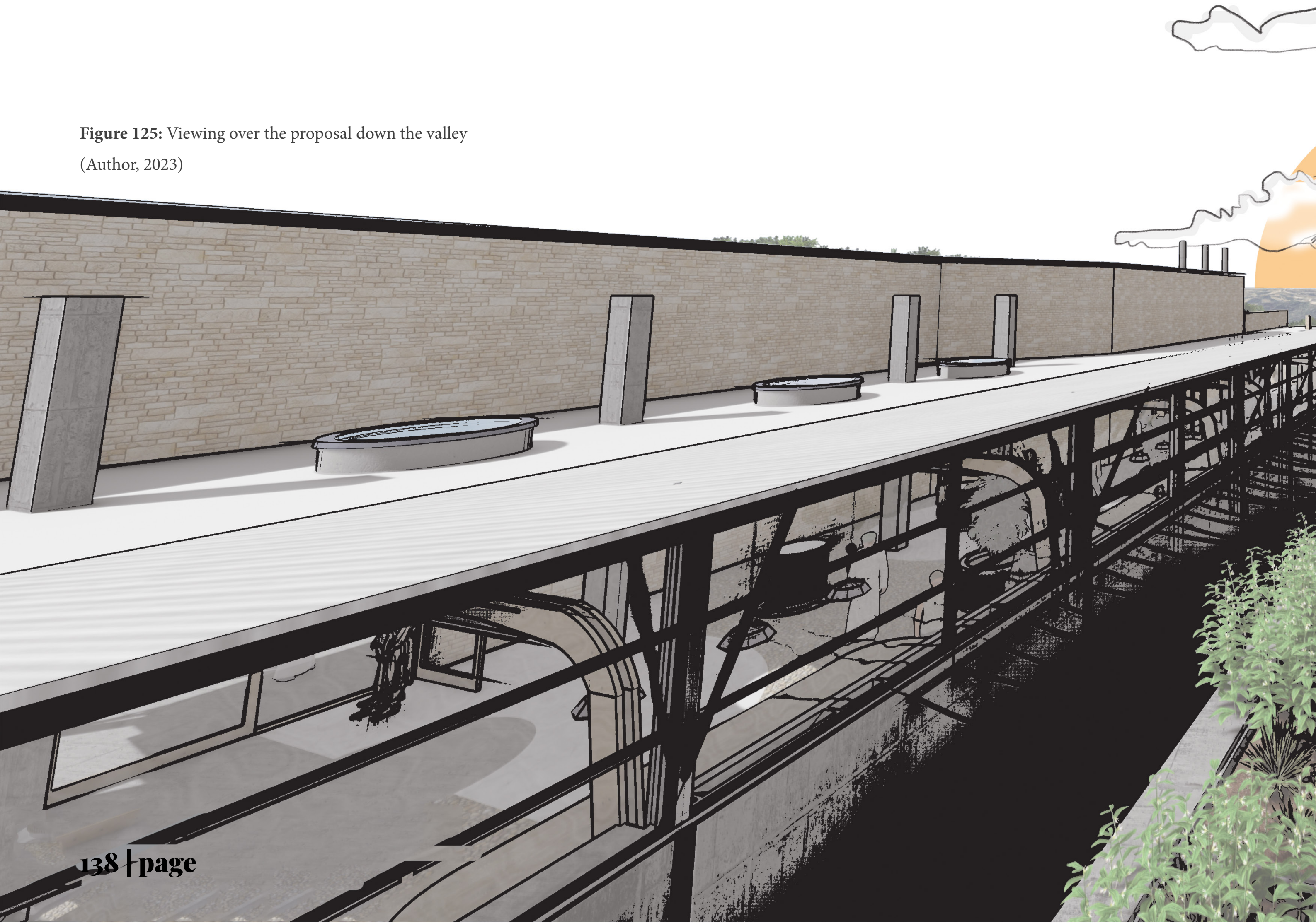


Figure 122: Viewing over the Tea Lounge (Author, 2023)
Figure 123: Interior views of the Tea Lounge (Author, 2023)
Figure 124: Looking up the valley over the spice fields (Author, 2023)

Figure 125: Viewing over the proposal down the valley
(Author, 2023)



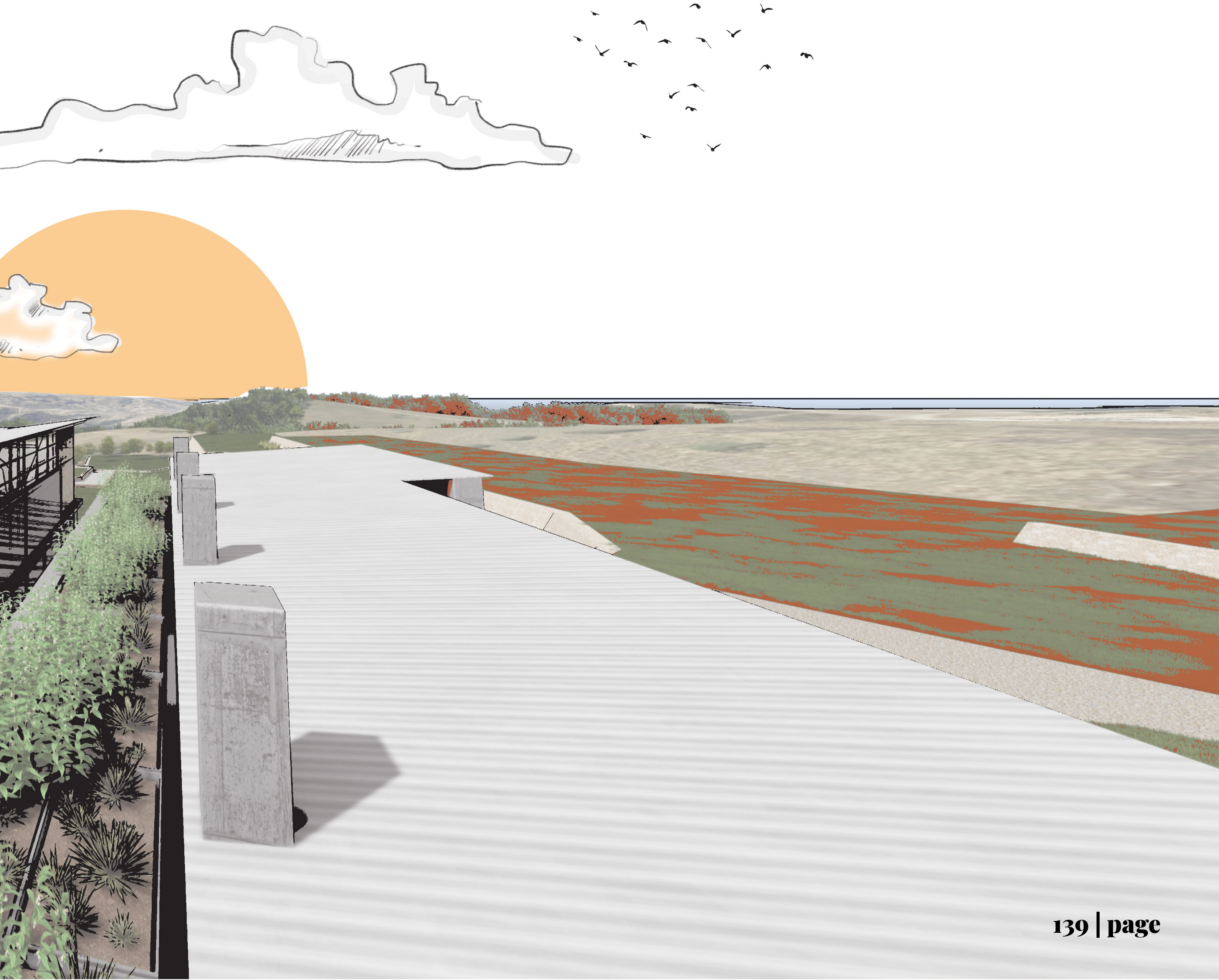


Figure 126: Art gallery reflection pool (Author, 2023)

06 REFLECTION

of the dissertation

PART

6.1

Conclusion

Concluding the dissertation to close the loop and justify previous decisions made.

6.2

Reflection

Reflecting on the dissertation and what inspired it.

SIX

6.3

References

Figure 127: Looking back at the dissertation (Author, 2023)

6.1. Conclusion

In conclusion, as we reflect on the intricate tapestry of sensory experiences, cultural heritage, and architectural design, it becomes evident that the Spice Promenade project embodies the essence of a dynamic and culturally responsive architectural journey. South Africa's rich Indian heritage, with its aromatic spices and culinary traditions, serves as the foundation for this endeavor, inviting visitors to embark on a sensory peregrination through history, culture, and space.

This master dissertation has sought to bridge the realms of sensory perception, food culture, and architecture, illuminating the transformative potential of multisensory encounters in shaping our perception of the environment. By mapping the smell-taste journey through spices as a cinematographic voyage through architectural nodes and experiences, this research has not only provided insights into design principles but also celebrated the interplay between culture and place-making.

The Spice Promenade project, rooted in the cultivation of traditional spices and educational experiences, serves as a beacon of cultural immersion, economic sustainability, and community enrichment. It is a testament to the power of architecture to engage our senses, celebrate cultural identity, and create meaningful spaces that resonate with the human spirit.

In essence, this study exemplifies how architecture can transcend the visual and become a sensorial medium, inviting us to partake in a journey of discovery, connection, and cultural appreciation. The Spice Promenade stands as a testament to the profound impact of sensory experiences on our understanding of space and place, inviting us to savor the rich flavors of South African Indian culture while embracing the vibrant possibilities of architectural design.

6.2. Reflection

When architecture evokes memories of stories shared, moments remembered, and an interaction with something beyond our own reasoning, it has won so much more than the design of a building. We then begin to build a legacy and not merely a structure.

The inspiration for the dissertation branched from my deep love for the people of my hometown. Growing up, I was surrounded by families who celebrated and communed around pots so big that they could only be accommodated by a backyard fire. The anticipation of what is to come, as a flame is brought closer to a dry newspaper, will ignite so much more than a fire. A memory is about to be created. These moments that were shared over meals cultivated a respect and love for the culture. Indian spices hold much more value than their flavour, but rather stories and lessons from the past to the future.

In reflecting on the dissertation, it is evident to see that the practical application of the theory was the driver. The peregrination through the site extends beyond the user experience, venturing into the realms of sensory perception, encompassing aspects such as light, water, and wind—all seamlessly woven into the architectural framework. The aesthetics of the dissertation moved along the promenade thereof. Further-more, the essence of Indian architecture: the emphasis on geometry, balance, hierarchy, circulation, and light, are all employed in the skeleton of the design and it is then, through the spices, that the layers of colour and filigree, which are so true to Indian culture, are brought to life.

This dissertation and the research involved brought about a deeper understanding of the Indian culture and the part that architecture has played in the history of spice. Architecture holds the power to concretize history and to share the heart of the context, the climate, and the people it represents.

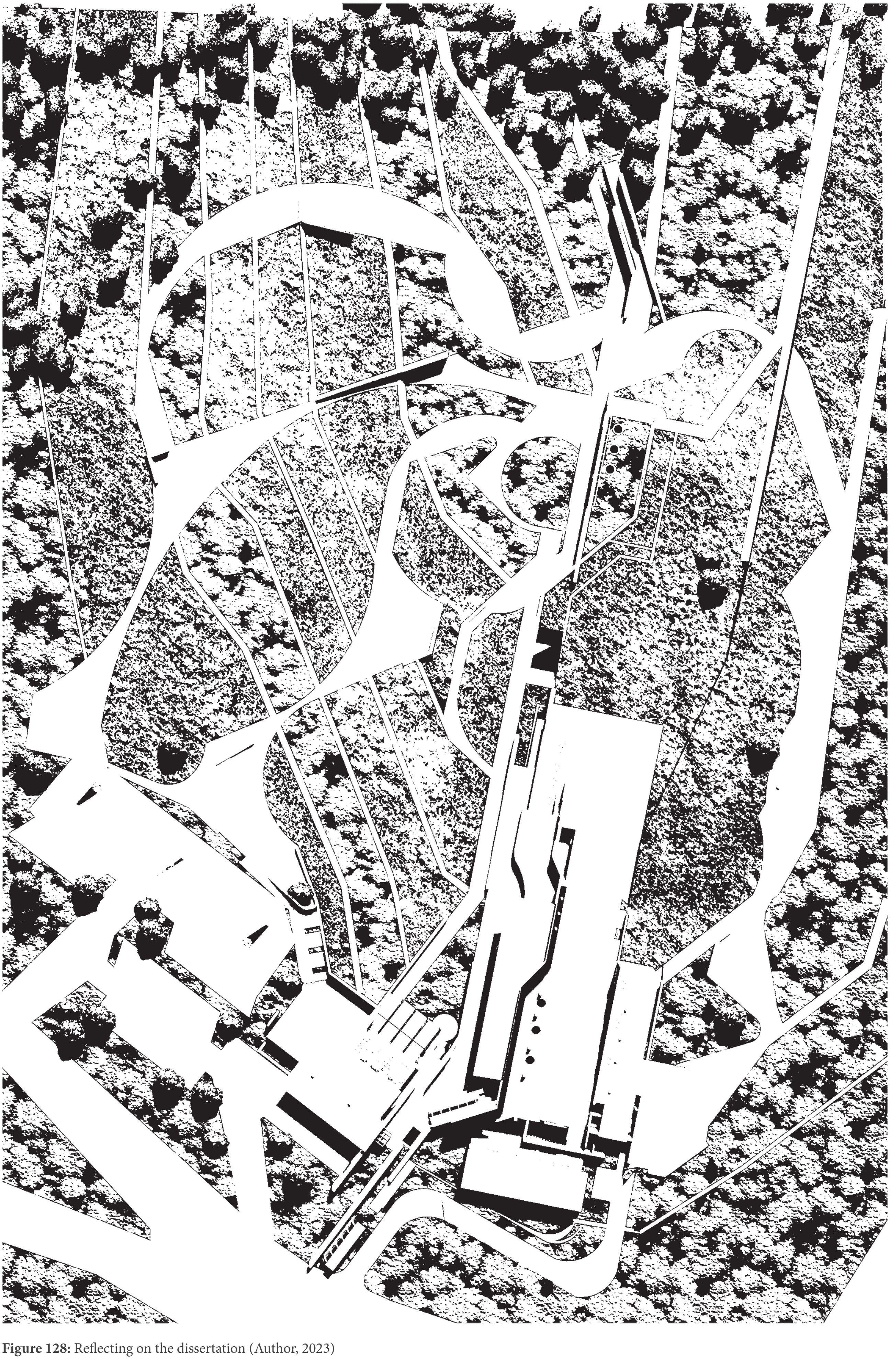


Figure 128: Reflecting on the dissertation (Author, 2023)

Construction Documentation

CJ HALLOWELL

CONS 7908: PEREGRINATING THROUGH SPICE		SCALE	1:1000	COMPANY DETAILS	
		ERF NO.	1608		
		LOCATION	ROSENEATH, KZN		
DRAWING NAME	LOCALITY PLAN	DATE	27 OCTOBER 2023	CLIENT DETAILS	The Spice Emporium
DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL		
DRAWING TYPE	PLAN	STUDENT NO.	2017114139		

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on
155mm concrete slab, with a 250 micron sheet damp proofing
membrane with a 200mm overlap and bonded joints and turned up at
slab edges on a compacted fill.
WALLS
To be built according to sizes and levels indicated on floor plans and sections. Continuous strip DPC is to be built into the wall at slab level, as well as stepped down at cavity walls and windowsills.
LINTELS
Precast concrete lintels to be built in above window and door openings.
SILLS
Sill to be slopped away from opening on the exterior. DPC to be built under window openings.
ROOF
Roof to be designed according to engineer's specifications.
CEILINGS
6mm ISOboard, fixed to 38 x 38mm purlins, fixed to the roof structure.
WATERPROOFING
PVC gutters and downpipes
PLUMBING
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications

CONS 7908: PERIGRINATING THROUGH SPICE		SCALE	1:200	COMPANY DETAILS	
		ERF NO.	1608		
		LOCATION	ROSENEATH, KZN		
DRAWING NAME	ROOF PLAN	DATE	27 OCTOBER 2023	CLIENT DETAILS	The Spice Emporium
DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL		
DRAWING TYPE	PLAN	STUDENT NO.	2017114139		

GENERAL NOTES

FOUNDATIONS
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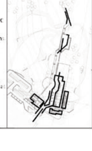
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications



CJ HALLOWELL	CONS 7908: PEREGRINATING THROUGH SPICE	SCALE	1:200	COMPANY DETAILS	
		ERF NO.	1608		
		LOCATION	ROSENEATH, KZN		
DRAWING NAME	GROUND FLOOR PLAN	DATE	27 OCTOBER 2023	CLIENT DETAILS	The Spice Emporium
DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL		
DRAWING TYPE	FLOOR PLAN	STUDENT NO.	2017114139		

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on
155mm concrete slab, with a 250 micron sheet damp proofing
membrane with a 200mm overlap and bonded joints and turned up at
slab edges on a compacted fill.
WALLS
To be built according to sizes and levels indicated on floor plans and sections. Continuous strip DPC is to be built into the wall at slab level, as well as stepped down at cavity walls and windowsills.
LINTELS
Precast concrete lintels to be built in above window and door openings.

SILLS
Sill to be slopped away from opening on the exterior. DPC to be built under window openings.
ROOF
Roof to be designed according to engineer's specifications.
CEILINGS
6mm ISOboard, fixed to 38 x 38mm purlins, fixed to the roof structure.
WATERPROOFING
PVC gutters and downpipes
PLUMBING
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications

CJ HALLOWELL

CONS 7908: PEREGRINATING THROUGH SPICE		SCALE	1:200	COMPANY DETAILS	
		ERF NO.	1608		
		LOCATION	ROSENEATH, KZN		
DRAWING NAME	RESTAURANT FLOOR PLAN	DATE	27 OCTOBER 2023	CLIENT DETAILS	The Spice Emporium
DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL		
DRAWING TYPE	FLOOR PLAN	STUDENT NO.	2017114139		

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on
155mm concrete slab, with a 250 micron sheet damp proofing
membrane with a 200mm overlap and bonded joints and turned up at
slab edges on a compacted fill.
WALLS
To be built according to sizes and levels indicated on floor plans and sections. Continuous strip DPC is to be built into the wall at slab level, as well as stepped down at cavity walls and windowsills.
LINTELS
Precast concrete lintels to be built in above window and door openings.
SILLS
Sill to be slopped away from opening on the exterior. DPC to be built under window openings.
ROOF
Roof to be designed according to engineer's specifications.
CEILINGS
6mm ISOboard, fixed to 38 x 38mm purlins, fixed to the roof structure.
WATERPROOFING
PVC gutters and downpipes
PLUMBING
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications

CJ HALLOWELL	CONS 7908: PEREGRINATING THROUGH SPICE		SCALE	1:200	COMPANY DETAILS	
			ERF NO.	1608		
			LOCATION	ROSENEATH, KZN		
	DRAWING NAME	PRODUCTION & TEA LOUNGE FLOOR PLAN	DATE	27 OCTOBER 2023	CLIENT DETAILS	The Spice Emporium
	DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL		
	DRAWING TYPE	FLOOR PLAN	STUDENT NO.	2017114139		

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on
155mm concrete slab, with a 250 micron sheet damp proofing
membrane with a 200mm overlap and bonded joints and turned up at
slab edges on a compacted fill.
WALLS
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SILLS
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ROOF
Roof to be designed according to engineer's specifications.
CEILINGS
6mm ISOboard, fixed to 38 x 38mm purlins, fixed to the roof structure.
WATERPROOFING
PVC gutters and downpipes
PLUMBING
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
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WALLS
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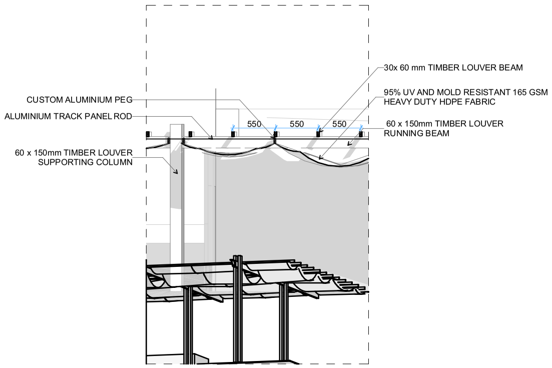
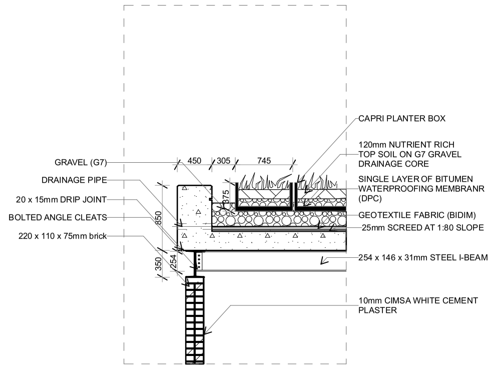
ELECTRICAL
All electricals according to electricians' specifications



DETAIL 01
SCALE 1:50



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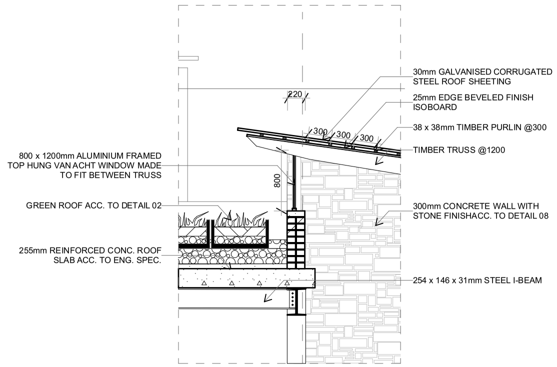

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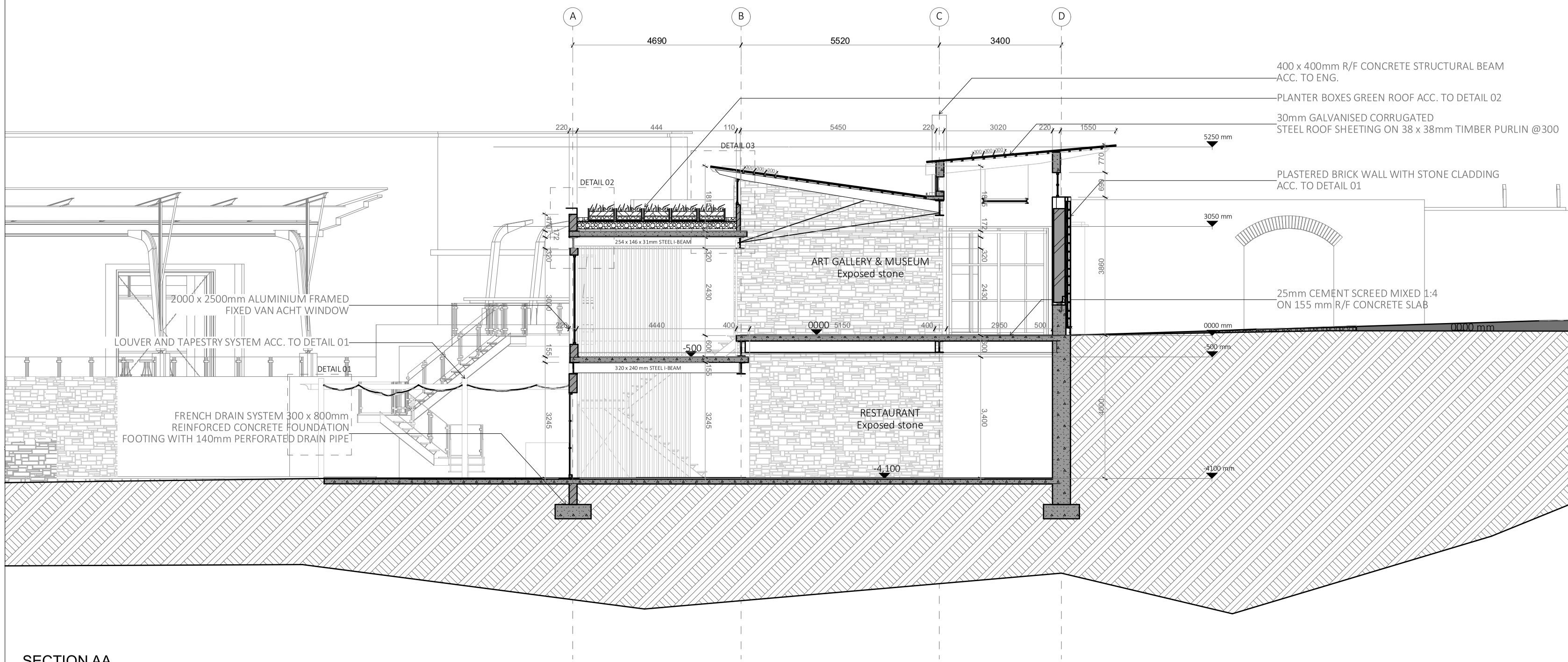
SCALE 1:50



SECTION AA
SCALE 1:100

DRAWING NAME
SECTION AA

DRAWING NO. **DATE**
27 OCTOBER 2023

SCALE
1:50,100

ERF NO.
1608
ROSENEATH, KZN

DRAWN BY
HALLOWELL
CAYLA-JADE

STUDENT NO.
2017114139

CLIENT DETAILS
The Spice Emporium

COMPANY DETAILS

CONS 7908:
PEREGRINATING THROUGH SPICE

CJ HALLOWELL

ARCHICAD EDUCATION VERSION

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on 155mm concrete slab, with a 250 micron sheet damp proofing membrane with a 200mm overlap and bonded joints and turned up at slab edges on a compacted fill.
WALLS
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PLUMBING
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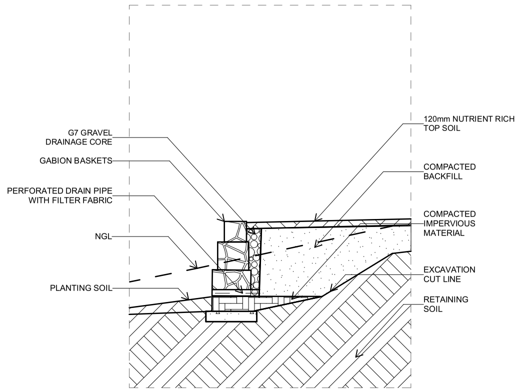
ELECTRICAL
All electricals according to electricians' specifications



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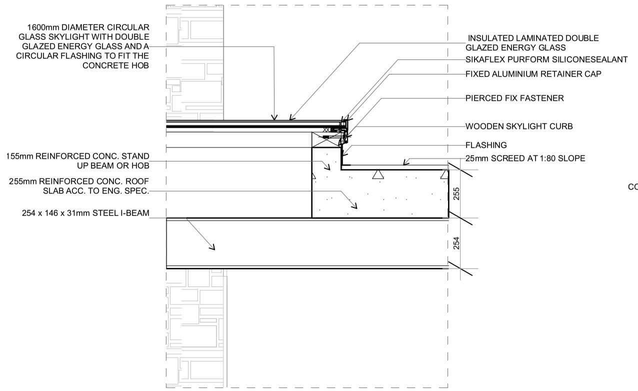
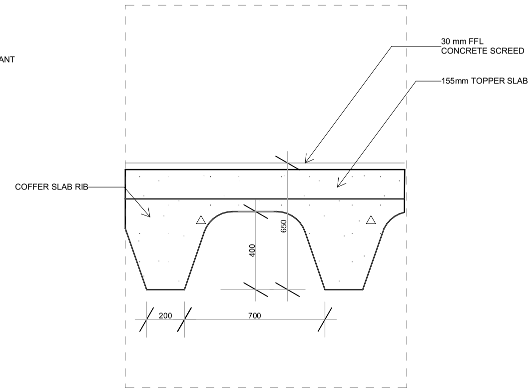
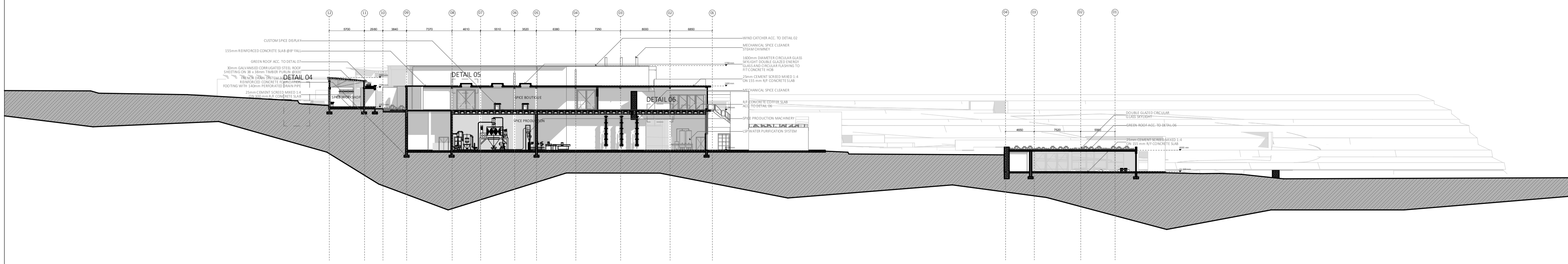


DETAIL 05
SCALE 1:20



DETAIL 06
SCALE 1:20

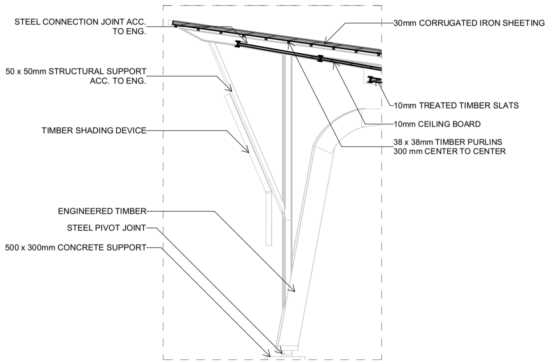


SECTION BB
SCALE 1:500

DRAWING NAME	SECTION BB
DRAWING NO.	
DATE	27 OCTOBER 2023
SCALE	1:20,50,500
ERF NO.	1608 ROSENEATH, KZN
DRAWN BY	HALLOWELL CAYLA-JADE
STUDENT NO.	2017114139
CLIENT DETAILS	The Spice Emporium
COMPANY DETAILS	

CONS 7908: PEREGRINATING THROUGH SPICE

CJ HALLOWELL



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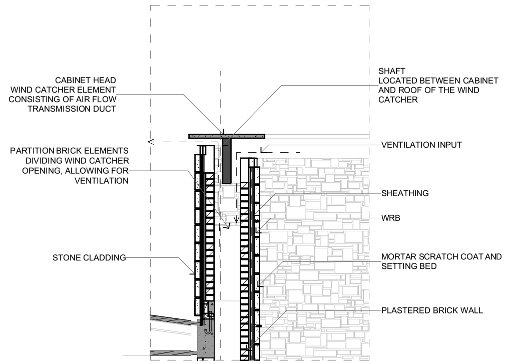
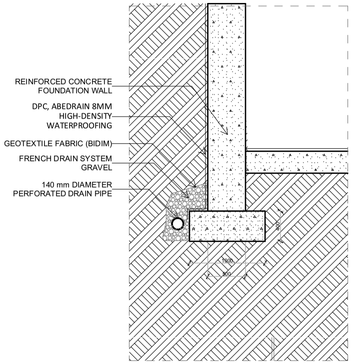
SCALE 1:50



DETAIL 08
SCALE 1:50



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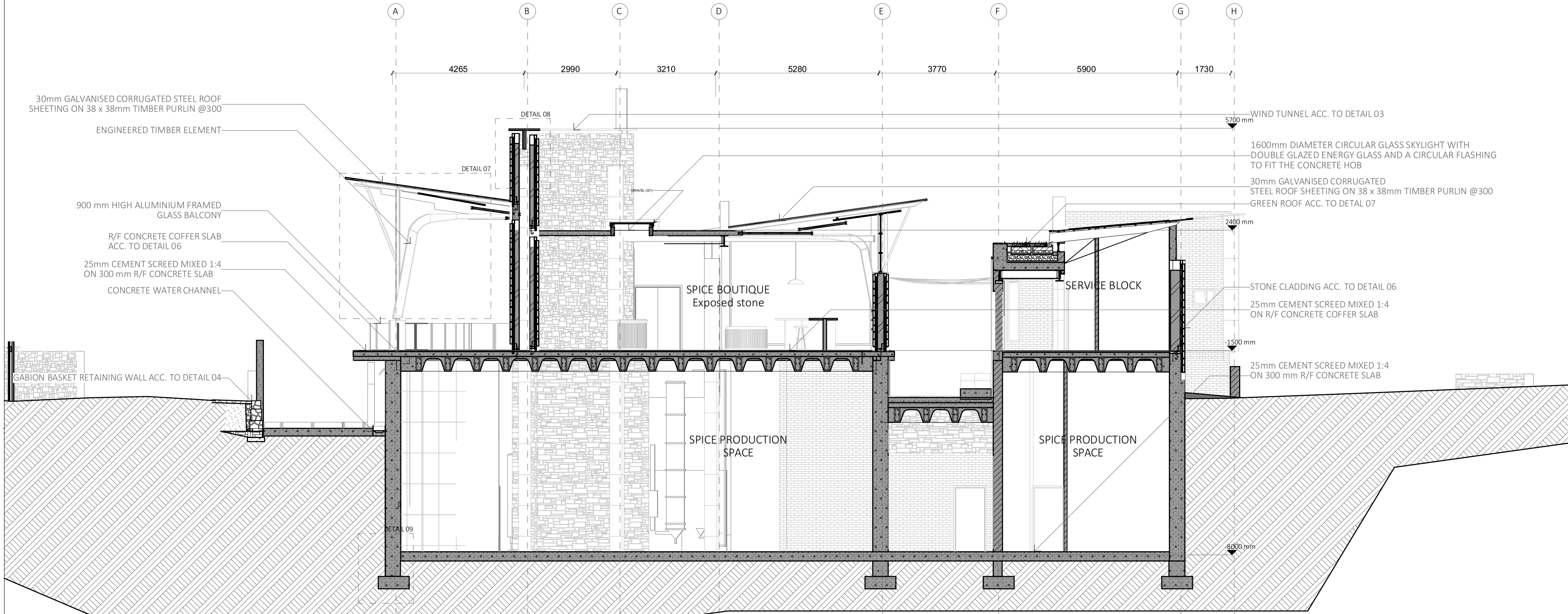
SCALE 1:50



SECTION CC
SCALE 1:100

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
FLOOR SLABS
Floor finishes as indicated on plan, to be 25mm cement screed on
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PLUMBING
40mm waste pipes connected to fittings with inspection eyes at bends. 110 mm PVC soil pipes with rodding eyes at the highest points and laid to connect to the municipal connections.
ELECTRICAL
All electricals according to electricians' specifications

DRAWING NAME	
SECTION CC	
DRAWING NO.	**DATE**
	27 OCTOBER 2023
SCALE	**ERF NO.**
1:50, 100	1608 ROSENEATH, KZN
DRAWN BY	**STUDENT NO.**
HALLOWELL CAYLA-JADE	2017114139
CLIENT DETAILS	
The Spice Emporium	
COMPANY DETAILS	

CONS 7908:
PEREGRINATING THROUGH SPICE

CJ HALLOWELL

GENERAL NOTES

FOUNDATIONS
Concrete footings, made of 25mpa concrete according to the sizes indicated on the drawings.
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ELECTRICAL
All electricals according to electricians' specifications

DRAWING NAME
NORTHERN ELEVATION

DRAWING NO. | **DATE**
27 OCTOBER 2023

SCALE 1:100 | **ERF NO.** 1608 ROSENEATH, KZN

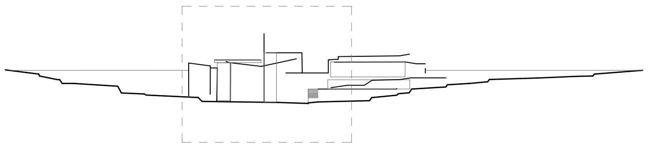
DRAWN BY HALLOWELL CAYLA-JADE | **STUDENT NO.** 2017114139

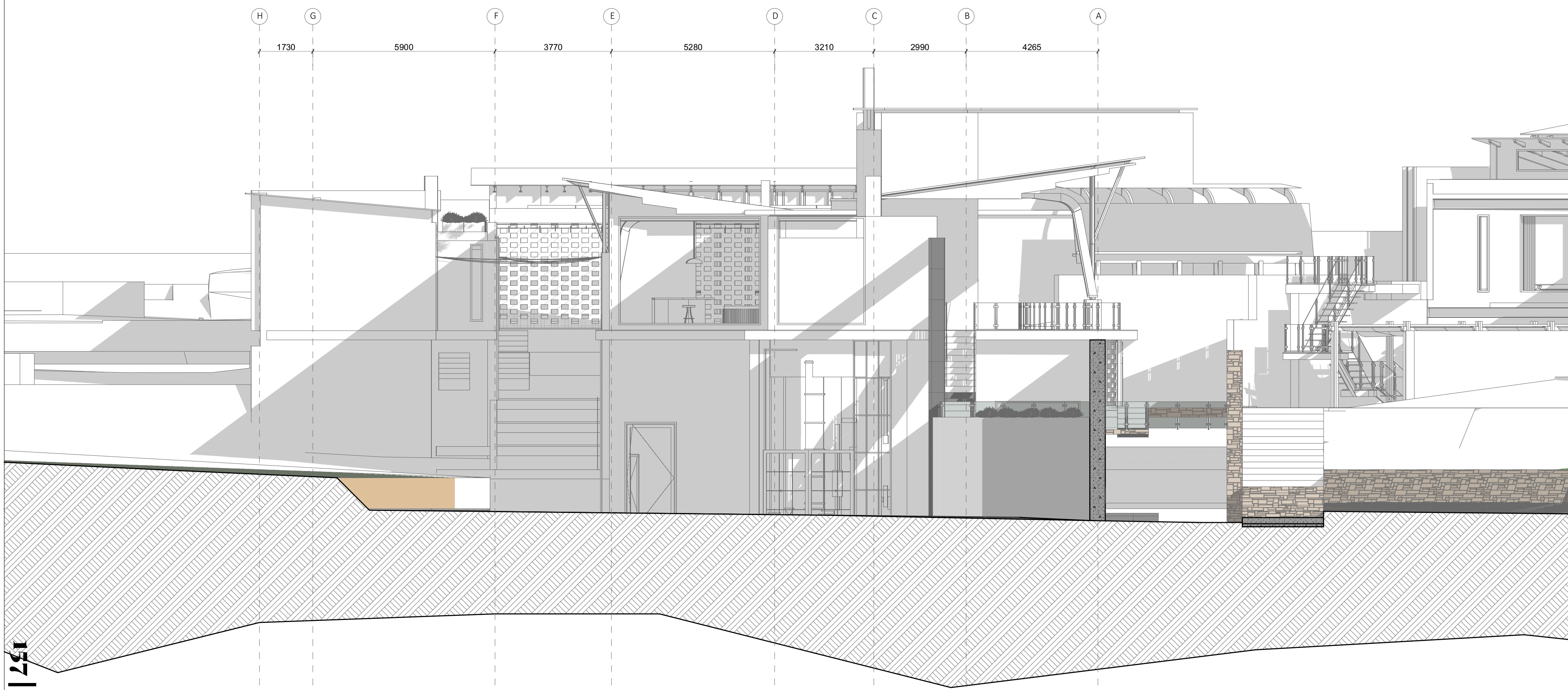
CLIENT DETAILS
The Spice Emporium

COMPANY DETAILS

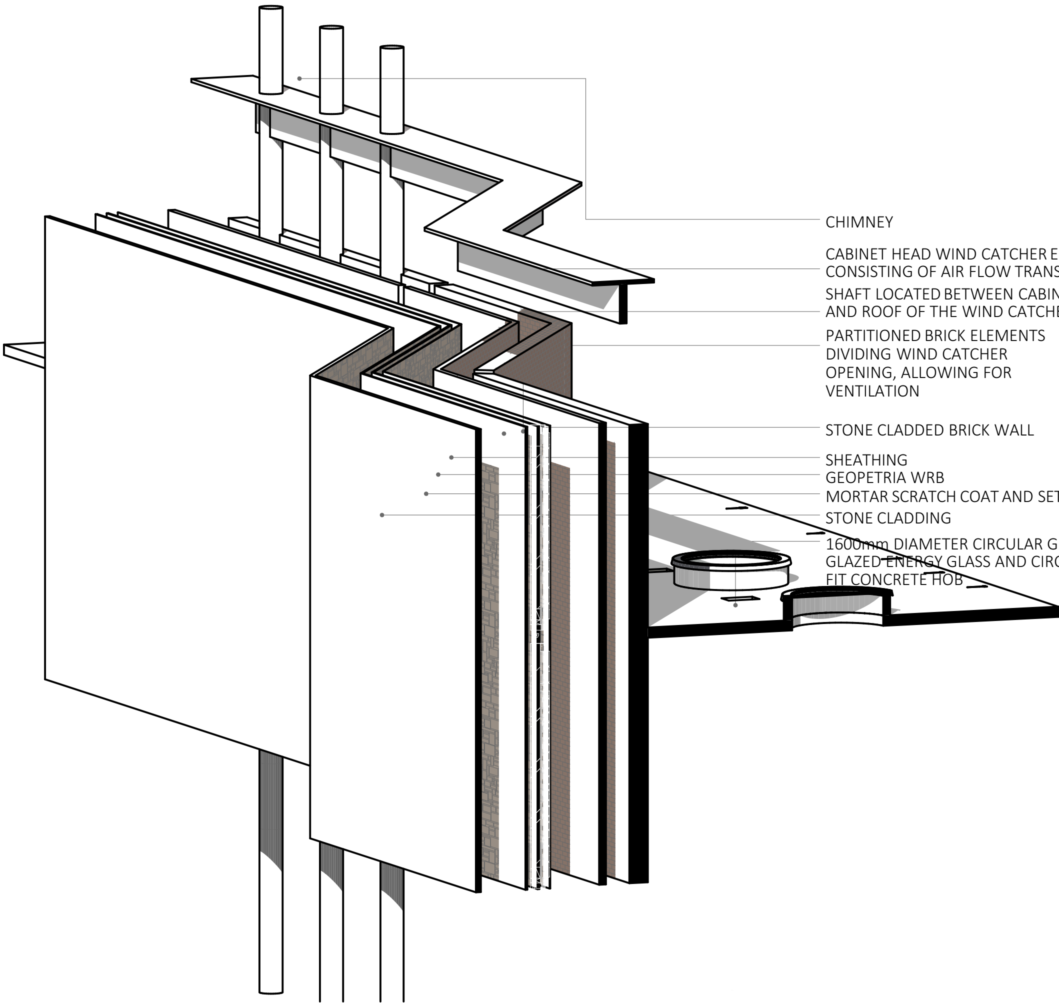
CONS 7908:
PEREGRINATING THROUGH SPICE

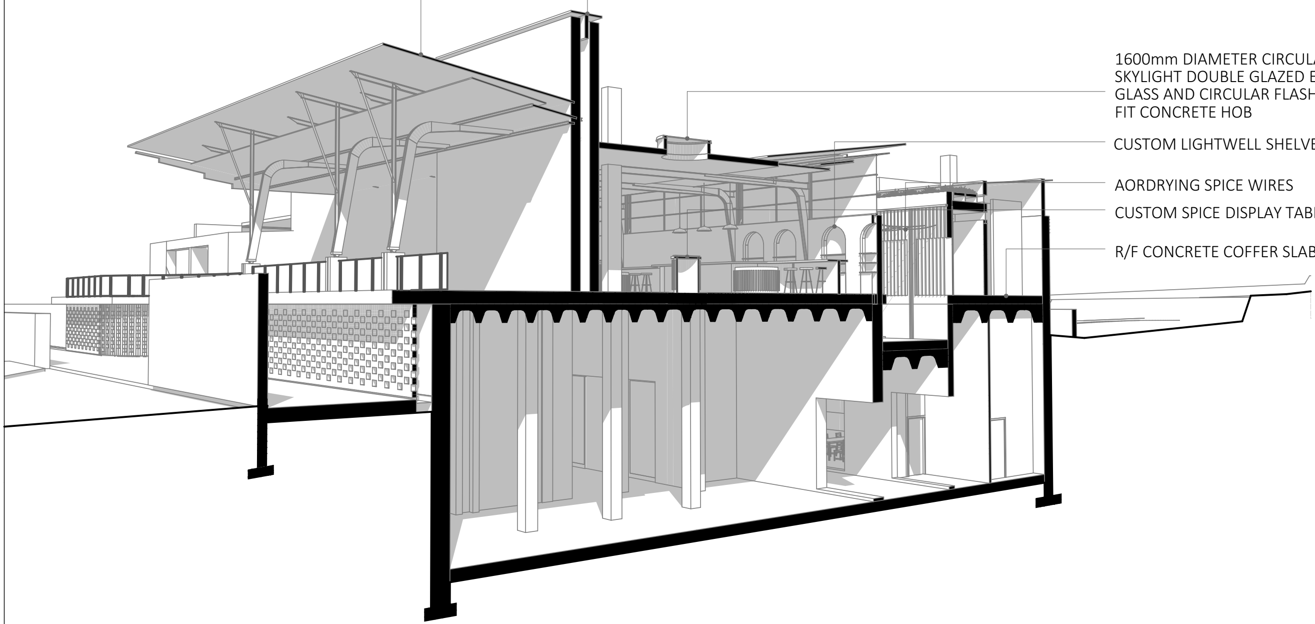
CJ HALLOWELL





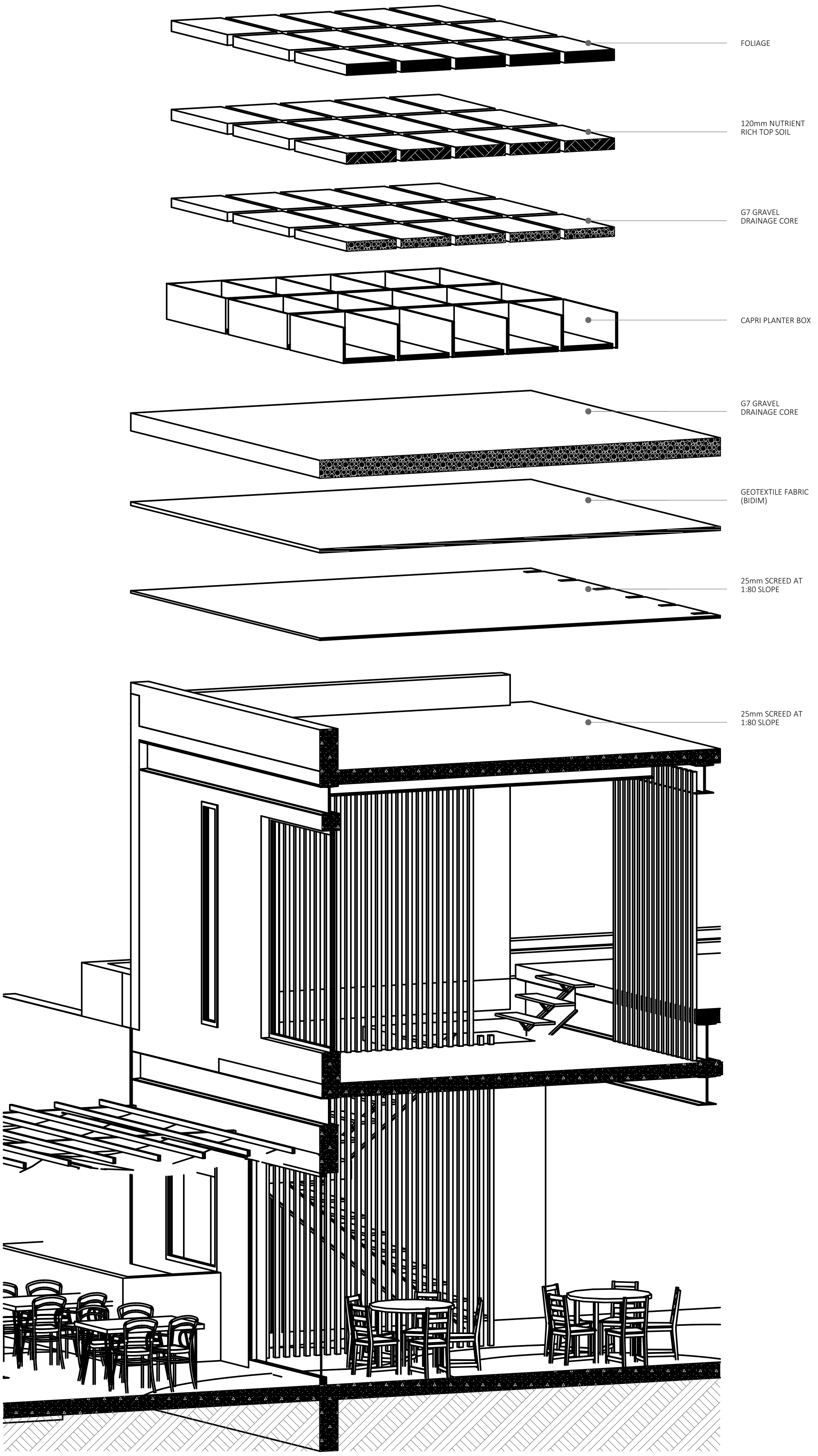
NORTHERN ELEVATION
SCALE 1:100





CONS 7908: PEREGRINATING THROUGH SPICE		SCALE	
		ERF NO.	1608
		LOCATION	ROSENEATH, KZN
DRAWING NAME	WIND TUNNEL AXO	DATE	27 OCTOBER 2023
DRAWING NO.		DRAWN BY	CAYLA-JADE HALLOWELL
DRAWING TYPE	AXONOMETRIC	STUDENT NO.	2017114139

C J HALLOWELL



CJ HALLOWELL

CONS 7908: PEREGRINATING THROUGH SPICE		**SCALE**	
		ERF NO.	1608
		LOCATION	ROSENEATH, KZN
DRAWING NAME	GREEN ROOF AXO	**DATE**	27 OCTOBER 2023
DRAWING NO.		**DRAWN BY**	CAYLA-JADE HALLOWELL
DRAWING TYPE	AXONOMETRIC	**STUDENT NO.**	2017114139

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